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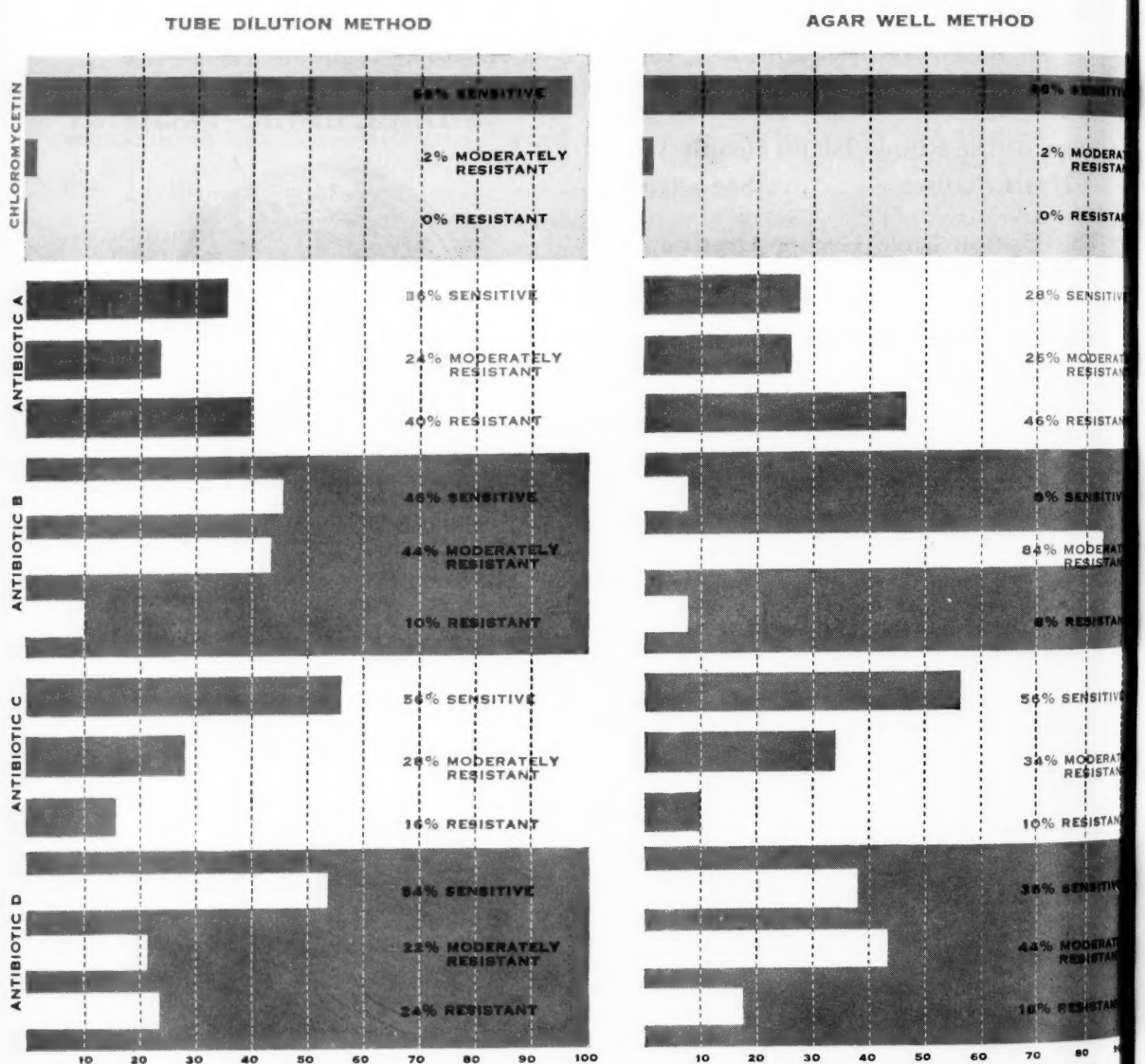

# The RHODE ISLAND MEDICAL JOURNAL

*Editorial and Business Office: 106 Francis Street, Providence, R. I.*

*Editor-in-Chief:* PETER PINEO CHASE, M.D.

*Managing Editor:* JOHN E. FARRELL

*Owned and Published Monthly by*

THE RHODE ISLAND MEDICAL SOCIETY

Entered as second-class matter at the post office at Providence, Rhode Island

Single copies, 25 cents . . . Subscription, $2.00 per year.

Volume XXXVIII, No. 12 December, 1955


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## RHODE ISLAND MEDICAL SOCIETY
## PHYSICIANS SERVICE

The RHODE ISLAND MEDICAL JOURNAL

VOL. XXXVIII DECEMBER, 1955 NO. 12

# THE STORY OF THE HEART STATION at the RHODE ISLAND HOSPITAL

FRANK T. FULTON, M.D.

**THE RHODE ISLAND MEDICAL JOURNAL is particularly pleased and proud to have the honor of publishing this story by one of the earliest students of the heart in America, the chief of cardiology at Rhode Island Hospital for many, many years, and the dean of Rhode Island physicians – Doctor Frank T. Fulton.**

**. . . THE EDITORS**

IN WRITING of the early history of the electrocardiograph and its use in the study and diagnosis of heart disease, one needs mention but two names: Willem Einthoven and Sir Thomas Lewis. The development of the instrument, itself, was comparatively rapid, and its usefulness was due almost entirely to Einthoven, while its application to the study and diagnosis of heart disease was due to Lewis. Einthoven was professor of physiology at the University of Leyden. He perfected a string galvanometer which was much more highly sensitive than any then in use. It could detect and measure the strength and direction of the smallest possible electric current associated with the heartbeat. This work was reported in papers published in 1907 and 1908.

Lewis became interested in electric currents associated with physical activity. The discovery of fibrillation in dogs and horses, upon which electrocardiographic records had been made about 1909 stimulated the more systematic observations in the human. Arthur R. Cushney, professor of medicine and pharmacology at the University of Edinburgh was associated in these observations.

In 1907 Lewis came in contact with Sir James Mackenzie who had recently come to London. Sir James was a resident of Burnley and had spent his life there in general practice up to that time. He was greatly interested in the heart action and irregularities and in his studies used an ink polygraph. He and Lewis subsequently became very friendly, altho their interpretations of the meaning of the different irregularities were not always in accord. The preface of Dr. Lewis' book, "The Mechanism of the Heart Beat," was written in December 1910. I first obtained this book in 1911, soon after it was published.

At the end of 1909 I had resigned as director of the pathological department at the Rhode Island Hospital and was appointed as visiting physician on the medical staff. At this time I moved my office and some of the announcement cards which I sent out had, inconspicuously in the lower left-hand corner, "Internal Medicine." I also sent some which did not have that designation, the reason being that the term had hardly become known in Providence and I didn't want to seem to be ostentatious. No one else in the city up to that time had declared himself as an internist.

During my first three years in Providence (1900-1903) I lived in the hospital and was in very close touch with practically all of the interesting cases on both the medical and surgical services and occasionally some of the specialties. This was because I was so intimately associated with the interns that I would usually hear of these patients, and there was always the opportunity to make observations and perhaps help in working out the diagnosis. Then, too, having the direction of the pathological work, I saw and had a chance to examine many of the cases after death and could compare what was actually found, with what had been believed to be present during life. The cardiovascular diseases always interested me more than any other phase of Medicine and after I became a member of the visiting staff, my interest was intensified and cases of that type got rather more attention from me than those simply of general Medicine.

Dr. Lewis' book represented one of the high spots in the advancement of our understanding of the cardiovascular system. It was a difficult book to read because it took one so far in advance of the general knowledge at that time. I decided during the winter of 1911-1912 that I would go to London and get a better understanding by doing some work in Dr. Lewis' laboratory. I sailed on

*continued on next page*

July 10th, 1912 and had as my companion, Dr. Dewey Alsever, who had been an intern at the Rhode Island Hospital and who also was interested in Internal Medicine. Our main purpose in making this trip was the study of heart disease.

On arriving in London we went to see Dr. Lewis at the University College Medical School. We found him very cordial. He was still young, 31 years of age, fourteen years younger than I. After telling him why we had come, he suggested that we come in for a week to see if we thought it would be worthwhile to spend the summer with him, in which case he would be glad to have us.

The next morning we called on Sir James Mackenzie, to whom we had a letter of introduction, to ask his advice and he said by all means, if there was an opportunity we should avail ourselves of it, adding that he thought Lewis the best informed man in Europe at that time in the recent knowledge of cardiovascular diseases and the normal function of the cardiovascular system.

When we returned to begin our work with Lewis we found there were already four young fellows who were there to learn what he was doing. He was busy during the summer a good deal of the time with some research problem, for that was his particular interest; however, he gave up a certain part of his time to teaching. Occasionally he would give a lecture which was always good. His faculty of expressing himself very clearly made a difficult subject comprehensible and interesting.

The first thing we were made to understand was the mechanism of the normal heart action. Lewis had analyzed and classified very definitely the various types of irregularities. Until then they were not generally well understood, though Sir James Mackenzie had identified them fairly well by the use of his ink polygraph. Lewis had been using that and had a large collection of tracings which were mounted in a book and we were given the task of studying these and interpreting the type of irregularity which each represented. He didn't approve of our seeing any electrocardiograms until we had been through that set of polygraph tracings. After that we were allowed to go through his collection of electrocardiograms of irregular hearts and found at once it was the lazy man's way of getting the facts, because they were presented so much more clearly and definitely. The study of the polygraph records, however, was valuable because one had really to put in a good deal more thought and ingenuity to get a correct interpretation. Eventually each man was allowed to operate the electrocardiograph and toward the end of our stay Dr. Lewis took tracings of each of us.

I felt that I learned more in that short summer with Lewis than in any period of the same length during my medical life up to then. The advantage of having an electrocardiograph to use to verify the abnormal mechanisms was greatly impressed upon me; however, a Mackenzie ink polygraph could be bought for fifty dollars and an electrocardiograph would cost fifteen hundred. On that account Alsever and I each came home with a polygraph.

Dr. Lewis, while he always treated us courteously, was not always very approachable. He volunteered in conversation rather seldom, but in his lectures he was extraordinarily clear. It was a pleasure and satisfaction to have him discuss for us any pertinent subject. At the end of the summer the six of us who had been there for several weeks wanted to do something to show our appreciation for all that he had done for us. We didn't know just what to do, but asked Sir James Mackenzie if he could give us any ideas. He at once said: "Take him out to dinner and give him a good time. I think that would be the most suitable thing and perhaps please him more than anything else; at any rate, that is the sort of thing he needs." We asked Sir James to join us but for some reason he was unable to, so we put it up to Dr. Lewis, asking him to have dinner with us at the famous eating house, Simpson's on the Strand, where we had reserved a table. Lewis entered right into the idea, himself, and rather took over, as being a resident and understanding customs of the place, and he seemed to have a very good time. He became quite talkative, which was rather unusual with him and added greatly to our own interest. At the end of the dinner he took over altogether and invited us to go with him to a club where we could sit and visit. It was quite a delightful evening for us because Lewis had never shown his social side at all to any of us.

After we stopped work at the University College Alsever and I went to Edinburgh. We wanted to see the Royal Infirmary there and also to meet Dr. Ritchie, who had already identified auricular flutter and made the first definite study of that abnormal rhythm.

The knowledge of the heart's pathological anatomy and physiology was still quite limited. Heart block was well recognized and the bundle of His was known and its function quite well understood, in that when it was impaired, heart block would occur and the auricles and ventricles would beat independently of each other. However, the sinus node, which gives rise to the stimulus, the auriculo-ventricular node, the branches of His' muscle bundle and their distribution in the form of the Purkinje network had only just been demonstrated and it has been very interesting to note the development of the knowledge of these separate structures and the dependence of the heart upon their sound formation and ability to function. I,

personally, had never seen the muscle bundle of His dissected out until I did it, myself, on calves' hearts in 1912 after my return from this summer in Europe with Dr. Lewis. Just before we came away Lewis brought in a beef heart in which the arborizations of the bundle (the Purkinje network) had been injected. This was enough to get my interest and curiosity much aroused, and when I got home one of the first things I did was to go to a slaughterhouse and make arrangements with them to be present when they were slaughtering calves and to get some hearts for the purpose of demonstrating the whole conducting system. It was rather difficult to get them and if the first attempt at injection was a failure the heart was no longer useful. Finally, I purchased at the Providence Public Market a dozen pig hearts and took them to the hospital to try out this procedure. Ultimately I got several tolerably good injections—a couple of very good ones, much better than any Lewis had shown us. The photograph of one of these hangs now in the Heart Station. It was a lot of fun to show these specimens to some of my friends in the pathological laboratory at the Peter Bent Brigham Hospital, who had not yet seen this structure demonstrated. This network is enclosed throughout its extent by a sheath and the distribution was clearly shown by the use of India ink injected from a hypodermic syringe into the sheath. With good luck one could see very promptly, within two or three seconds, the ink flowing throughout the entire network. It made a beautiful specimen. I had one of these preserved in a museum jar for a good many years. It was used repeatedly for demonstration, until finally someone carelessly left it to dry up and thus it became useless for that purpose. This injection, as stated, was done in 1912. I find in my file a very nice note dated Oct. 14, 1913, from Dr. Geo. W. Norris, Professor of Clinical Medicine at the University of Pennsylvania and co-author of Norris' & Landis' "Diseases of the Chest and the Principles of Physical Diagnosis," as follows:

> "Please accept my cordial thanks for your kindness in sending me the lantern slide of the injected heart. It will be of great service to me in teaching, and I wish to congratulate you again on the ingenuity of the method which you have employed as well as upon the beautiful technique which you have developed."

This complimentary note compensated for some of the hard work I put into getting a satisfactory result in my attempts to show up the conducting system.

In the winter of that same year, while on service at the hospital, I discovered on Ward A two cases of auricular flutter which I analyzed and made the subject of a paper that I read at a meeting in Washington, D. C. in 1913. This was published in the "Archives of Internal Medicine" in October. These were the first cases noted and published in this country.

I spent a lot of time in the next two years working with the polygraph, making tracings on every patient in whom there was any irregularity of heart action that came under my observation. I used it in the medical wards through the courtesy of the visiting men, where I thought it would give useful information, and I had a lot of fun with it during this time. I went to Boston often. There, at the Brigham Hospital, which had just been opened, the atmosphere on the medical service was very cordial and friendly and I was invited to come at any time and make any observations on the cardiac cases that were in the wards. I had known well some of the members of the staff. Dr. Christian was in charge; Doctors Peabody, Reginald Fitz and Frothingham were on the staff and were all interested in heart disease, but the Brigham had not yet installed an electrocardiograph. Contact with these Boston men was very stimulating. Altogether, I learned a good deal during the two years after I had been abroad the first time studying in Lewis' laboratory.

Before the end of two years, my desire for an electrocardiograph had brought me to the determination to get one. At first I was puzzled to know how I could make it worthwhile. My office was such that I couldn't accommodate an instrument of that sort because it would take up so much room that it was out of the question. In Baltimore and in Dr. Mallory's laboratory I had learned of a good many new things. Sometimes suggestions made by me were coldly received by the older men at the Rhode Island Hospital. I was sure there would be no chance of getting favorable action through the staff so I took a short cut by going directly to the Laboratory Committee of the Board of Trustees and offering to buy an electrocardiograph, myself, as I would want one when I got into a more suitable office, proposing in the meantime to put it in the hospital where it could be used for any hospital patient and where I could take my own patients when I wished to, for the purpose of getting records. The only stipulation made was that the apparatus would be under my direction. Before doing anything, I wrote to Dr. Rufus Cole of the Rockefeller Hospital in New York, to Dr. Janeway, Chief of the Medical Service at Johns Hopkins at that time, and to Dr. Wm. Sidney Thayer of Johns Hopkins, to find out whether in their opinions the instrument was likely to have a definite and useful value in the care of certain cases of

*continued on next page*

heart disease. Following are the replies I had from these men:

September 28, 1913

Dear Fulton:

The electrocardiogram is a great help in some cases, and is a good complement to other methods of clinical study of cardiac disease that we have. It is difficult to say just what its clinical value is, but that it is of a good deal, I can say without hestitation. For instance; it is a simpler and quicker method of making observations than that of taking bedside tracings and in a good many instances, it tells in a few minutes certainly what one has to arrive at by rather more careful and prolonged study in working over a tracing. In some respects, it tells things that tracings do not tell, in other respects, tracings give a little further information. But it seems to me that a well equipped hospital should have one. The difficulty about the matter is that it is a complicated affair, and you will need a good electrician, and one who has made a special study of the instrument to direct it. It cannot be managed by any hospital assistant.

(Signed) W. S. THAYER

October 3, 1913

My dear Fulton:

There is no question as to the value of the electrocardiographic study of heart cases, particularly as a guide to the intelligent use of drugs. In nine out of ten cases one can get the information without the instrument, after he has learned to recognize what the instrument shows. In the tenth case he is pretty sure to miss it without. Polygraphic tracings give most of the information, but really take a great deal more time in the end. If you get a good instrument you will, of course, have to have some one who will take careful charge of it. It is not a thing which can be trusted to a house staff or to the use of several individuals.

(Signed) THEODORE C. JANEWAY

Sept. 27, 1913

Dear Frank:

Our experience here with the electrocardiograph makes us feel that this instrument is of very great value indeed as an aid in the proper diagnosis and treatment of individual cases of heart disease. I do not think that it is too much to say that this instrument has revolutionized our method of treatment, and without it we would be at a loss how to proceed in certain cases. Of course, much information may be obtained from venous tracings, but when the instrument is once set up and in order, it is so convenient to use and the information obtained is much more accurate than that which can be obtained by venous tracings.

As the instrument is used more and more, its value will undoubtedly become increasingly great. I should say, however, that even now it is almost as important for the physician who treats heart disease to have access to an electrocardiographic apparatus as it is for the surgeon to have an X-ray machine.

(Signed) RUFUS COLE

My offer to buy an electrocardiograph and install it in the hospital was promptly accepted, according to the following agreement:

Providence, R. I., July 27, 1914

Referring to the proposition made by Dr. Fulton to the Rhode Island Hospital, with regard to an Electrocardiograph, the Board of Trustees of the Hospital agree that if Dr. Fulton will obtain such an instrument, that they will install and maintain it in the Rhode Island Hospital provided that it is made available at all reasonable times for use on the Hospital patients. The operation of the instrument shall remain under Dr. Fulton's direction, and his ownership.

The question of fees for private Hospital patients and for outside patients who are able to pay may be arranged by the patient and Dr. Fulton just as they are arranged in the case of a surgeon who is to perform an operation on a private patient.

Charity patients from the outside shall, of course, receive the same attention free of charge.

This agreement may be terminated after the end of a year from above date by either party, upon notice of not less than thirty days.

Laboratory Committee

(Signed) CHARLES A. CATLIN, *Chairman*
EDWARD D. PEARCE

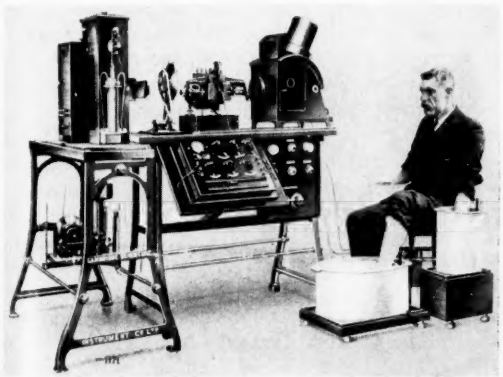
FRANK T. FULTON

In the meantime, I had made my plans in any case, to go to London again and pursue further my studies with Dr. Lewis. I sailed on July 31st, 1914. On August 4th our ship was met by two British men-of-war and the announcement was made that war had been declared between Germany and England, and we were convoyed from there until we landed. The first thing I did was to see Dr. Lewis, to find out what his plans were and what the situation was at the University College Hospital. He at once said that probably there would be very little going on there, that his plans hadn't been made, but that there was no doubt in his mind that they would be greatly modified by the war and that for the moment there was no organized work. I went over to Cambridge to see about an electrocardiograph. They told me that the war would hold up their orders and they couldn't promise anything before the following spring. But I ordered one at any rate.

This time in England was rather dull. It was impossible to get any sailing home earlier than the one I had reserved in the beginning; in fact, I had to postpone my return for a week longer than I had planned. During that time, however, I saw something of Dr. Lewis. I had with me a polygraphic tracing of a phase of the circulatory changes in one of the cases of auricular flutter that I had reported the year before. This tracing was taken with one of the tambours of the polygraph on the brachial artery and the other on the chest. This was done to record simultaneously the rate of the breathing and the rate of the pulse. It was quite a remarkable record in that it showed marked changes in the rate of the pulse and the amplitude of the deflections. It was so unusual that Dr. Lewis said it ought to be published, so I wrote up a short account, left it with him and he had it published in the English journal, "Heart," Vol. 6, No. 1, April 1915.

Later that autumn Dr. Lewis came over here upon invitation, to deliver the Harvey and the Herter lectures. He stayed with Dr. Christian in Boston a part of the time and I invited them both to come to Providence on a Saturday and spend the week end with me. On Sunday we drove down through Fall River, crossed over on the Old Stone Bridge at Tiverton and toured through Newport for a while that afternoon. Lewis seemed to get a lot of pleasure out of the trip.

Delivery of the electrocardiograph was not accomplished until March 1915. When it came, it was installed in the X-ray room in the basement of the hospital where there was plenty of spare space. It was very cumbersome (see illustration),



consisting of four definitely separate parts, all of which were mounted in proper relationship to each other upon a 6-foot long table. There was the electrical part of the device, which was the galvanometer, comprising an electromagnet in which there was mounted a microscope, the microscope being focused upon a minute fibre, perhaps four inches in length and about half the diameter of a red blood corpuscle. This fibre was suspended between the two poles of the electromagnet and the current from the patient's heart, passing through this magnetic field, caused a deflection of the fibre. The object of this mechanism was to get a shadow picture of the movement of the fibre. That meant that there must be a light passing through the microscope. The microscope greatly enlarged the shadow of the string and its minute movement. The source of the light was the arc from a set of carbons and the light produced in this way was never very constant. There was always some flickering. The carbons were supposed to feed toward each other automatically but they needed frequent adjusting. Then there was the camera with which the shadow of the string could be photographed. For this purpose, of course the film in the camera must be moving. In addition to what has already been mentioned, it was essential to have a time record made on the moving photographic film. That was accomplished by a large tuning fork attached to a small revolving wheel, the spokes of which were made to pass through the beam of light at the rate of 25 times a second. This cutting off the light for the minute fraction of a second would give the time record of the rate of movement of the photographic film.

As one can easily understand, the job of getting a shadow picture of a moving fibre under these circumstances, in which the mechanism that produced the light, the instrument which contained the moving fibre, the camera, and the timing device were all separate entities, was complicated. All of these parts had to be kept in proper adjustment and working in co-ordination with each other in order to get a record. There were many "gremlins" about the apparatus. Personally, I was very timid about operating it in the beginning. The difficulties which have been enumerated never have to be thought of now because the present instruments are built small, about the size of an average suitcase, with all these relations between the various parts made permanent, and instead of being placed upon a stationary foundation to avoid any extraneous vibration, they can be carried about at will.

The galvanometer fibre, or string, mentioned in the above discussion was very fragile, usually made of quartz and having a metallic coating of either silver or gold. The first ones were silver-coated, which were not so good. Two strings came with the instrument. We managed to put both of them out of function fairly promptly. During the previous year I had become acquainted with Prof. H. B. Williams, the physiologist at Columbia University. He was working with an electrician, building an electrocardiograph and one of his jobs was to make these strings. I asked him if he would make one for us. He demurred, and said that he

*continued on next page*

didn't believe he had better try it. I, however, coaxed him and he finally agreed to make a string and it lasted for more than two years' subsequent work. His method of making these fibres was interesting. He would first fuse some quartz. He had a crossbow put up in his laboratory and attached the fused quartz to the arrow and to the projector, then shot it across the room. That would draw out the fine fibre, so fine that only in a suitable light could it be seen, which he would then have to hunt for. When found, a segment of it was placed in a proper vacuum and bombarded with gold, literally plated with gold, so that it would conduct a current, the naked fibre being a nonconductor. The silver-coated fibres which we had originally obtained with the apparatus had not proved durable and Prof. Williams afterward said the reason he didn't want to make one for us was that he thought it would be broken right away and his fibres would be in disrepute.

In those days, to make the procedure of obtaining records even more complicated, the method followed was to have a patient sitting in a chair with the left foot and both hands individually immersed in saline solution in large earthenware vessels. These vessels contained small porous pots in which zinc electrodes were immersed in a chemical solution and had wires attached to them and to the instrument. This device took the place of the small electrodes now attached directly to the patient's extremities. It was efficient but extraordinarily clumsy and troublesome.

The first help was a lucky find. The instrument was installed just about the time of the annual examination of graduates for internship for the coming year. There were some twenty or more, among them Harry Clough of the Johns Hopkins Medical School. It was my good fortune that he drew the date for his internship beginning on April 1st, 1916, which made his service begin nine months after his graduation. I sought him out and induced him to come and work for me during that period. The hospital agreed to give him his living. He was an expert amateur photographer and had a fairly good mechanical turn of mind, in addition. He produced beautiful records. I think all of the tracings I had seen up until then were taken on films which were developed and then had prints made from them. Just about that time there was put on the market a bromide photographic paper that was made for the purpose of taking electrocardiograms. I learned in New York from Dr. Williams that it was not regarded as satisfactory; however, Clough tried out the bromide paper and was able to get some fine records, demonstrating that the paper was all right if the proper technique was used, and we soon had a number of letters asking for particulars as to the technique. Some of these records are still on file in the Heart Station in excellent condition. I feel very sure that some of the credit was due to Clough that the paper came fairly promptly into general use.

Because the electrocardiograph as built at that time was unwieldy and in no way portable, patients had to be brought to it to get records. However, it was sometimes desirable to take a record on a patient who was too sick to be moved with safety. It was found that the distance of the patient from the instrument was no obstacle providing that a connecting wire could be taken from the instrument to the patient. To accomplish that, a cable of multiple wires was installed in the walls of the hospital building, from the electrocardiographic room to the various wards. There was also a separate cable containing wires for a telephone connection. A lead wire from the patient was plugged into the cable from a ward outlet and a connecting wire from the instrument attached to another socket in the room where the instrument was. Thus the patient's record could be taken while he lay in bed at varying distances from the electrocardiograph. We learned of this device from the Peter Bent Brigham Hospital in Boston and it was used for years at the Rhode Island. Now, the instrument is easily carried from one patient's bedside to another in any part of the building, so that this distance wiring is no longer in use.

There were many headaches and heartaches associated with getting the records during the period of years between the acquisition of the first instrument and the development of the present day apparatus.

To return to the first year's use of the electrocardiograph, Dr. Clough was so skilful that we had comparatively little trouble in getting records at any time they were wanted, but after the nine months spent working with me he took his two years' internship and when that was finished he wanted to get an outside job. During World War I an Army heart hospital was established at Lakewood, N. J. I wrote to Dr. Theodore C. Janeway, former Professor of Medicine at Hopkins, who was in the Surgeon General's office, and especially interested in this heart hospital, telling him of Clough's experience with the electrocardiograph and asking if they would have any use for him there. The result of that was that Clough went to the hospital and remained there doing the electrocardiographic work until the end of the war. I, myself, visited there for a few days while I was in the Army. Clough had gotten well established in his job and was carrying on very satisfactorily. At the end of the war he returned to his home in Rochester and I think subsequently was in the physiological department in the medical school rather than carrying on the practice of Medicine. He died a few years ago.

*continued on page 708*

# EXPERIENCES WITH THE INTRA-ARTICULAR USE OF HYDROCORTISONE ACETATE

A. A. SAVASTANO, M.D.

The Author. *A. A. Savastano, M.D., of Providence, Rhode Island. Senior Orthopedic Surgeon, Miriam Hospital; Assistant Orthopedic Surgeon, Rhode Island Hospital.*

ALTHOUGH I have used hydrocortisone in many cases of acute bursitis with or without calcium, tenosynovitis in various locations, epicondylitis, ganglia, and many other conditions, this paper will be limited to my experiences with the intra-articular use of hydrocortisone acetate.

The chemistry of the synovial fluid, the pathological and X-ray changes which take place in the various forms of arthritis, and the diagnostic signs and symptoms have been well described in other papers; therefore, these will be omitted in this presentation.

Over the years, the medical profession has tried many types of intra-articular substances to reduce inflammation in arthritic joints. These have consisted of sterile preparations included among which are iodized oil, procaine, and petrolatum. None produced any appreciable satisfactory effect until hydrocortisone came into being. Doctor George Thorn is given credit for first injecting compound F or hydrocortisone into an arthritic joint and noticing not only a local improvement, but a systemic amelioration. The general improvement of the patient was such that it caused the local anti-inflammatory value of the drug to be obscured at least for the time being. Since Doctor Thorn's first experience with the intra-articular use of hydrocortisone, many papers have appeared in the literature relating the experiences and results obtained by the use of the drug. The reports to date indicate uniformly favorable results. To this long list of reports, I wish to add my general experiences and observations gained in the treatment of a goodly number of cases with joint pain resulting mostly from osteoarthritis, rheumatoid arthritis, traumatic arthritis, and gout. The material reported is entirely from my private practice.

Ten hundred and seventy-two patients have been treated and given a total of six thousand four hundred and thirty-three injections. Some of the patients have received only one injection while some have received as many as fifteen injections over a period of approximately thirty-one months. The average number of injections per patient was approximately six. Of the total number of patients, eleven had acute gout, thirty-nine had traumatic arthritis which followed fractures extending into joints, and the remainder had either osteoarthritis or rheumatoid arthritis.

### *Technique Used*

The commonly used office technique was followed in every case without the use of sterile drapes or sterile gloves. All needles and syringes were autoclaved. The hands were washed with soap and water and the area to be injected was also washed with soap and water and then sponged with alcohol. Novocaine was used for the first few months, but as I became more experienced with the aspiration of each specific joint the use of novocaine was abandoned. As time went on, it became increasingly apparent that the patient had no more pain when novocaine was not used than when it was used. In each case, if any excessive amount of synovial fluid was present in the joint it was aspirated prior to the introduction of the hydrocortisone. It was immediately observed that the patients who had distended joints aspirated obtained immediate relief. This improvement, however, was felt to be due to relief of pressure from the removal of excessive fluid rather than to any immediate effect of the hydrocortisone. The amount of hydrocortisone introduced into the joint was dependent upon the size of the joint injected. The larger the joint the more hydrocortisone injected. Never was more than 2 cc. injected and never was less than 0.25 cc. injected. In each case 25 mg. hydrocortisone equaled one cc. of the drug.

The average dose of hydrocortisone injected into the various joints was as follows:

| Joint | Dosage |
|---|---|
| Temporomandibular Joint | 0.5 cc. |
| Acromioclavicular Joint | 0.5 cc. |
| Sternoclavicular Joint | 0.5 cc. |
| Shoulder Joint | 1 cc. |
| Elbow Joint | 1 cc. |
| Wrist Joint | .5 cc. |
| Metacarpophalangeal Joint | 0.25 cc. |
| Interphalangeal Joints | 0.25 cc. |
| Hip Joint | 1 cc. |

*continued on next page*

| | |
|---|---|
| Knee Joint | 1 cc. |
| Ankle Joint | 1 cc. |
| Metatarsophalangeal Joint | 0.5 cc. |

Following the injection of the drug, the needle is withdrawn and the point of entry of the needle is again sponged with alcohol, dried and a band-aid applied. An ace bandage is used as a compression on the knee if a considerable amount of fluid is aspirated prior to the injection of the drug. Not a single infection occurred in the 1,072 cases reported.

The technique which was followed by me and by and large recommended by Doctor Hollander for the injection of the various joints was as follows:

1. *Knee Joint.* The needle is inserted from the middle of the medial or lateral side of the patella and the needle is directed posteriorly and laterally or medially as the case may be.
2. *Hip Joint.* The needle is started anterolaterally at about the middle of the junction of the neck of the femur to the trochanter. The needle is directed superiorly and medially. When the needle passes through the capsule, one gets the same feeling or sensation as he does when he enters the spinal canal when doing a lumbar puncture.
3. *Shoulder Joint.* The needle is inserted between the tip of the acromion and the head of the humerus with the needle being directed downward and medialward.
4. *Acromioclavicular, Temporomandibular, and Sternoclavicular Joints.* The needle is inserted straight into the joint. These joints are rather easy to enter as the examining finger can generally feel the joint space.
5. *Wrist Joint.* The needle is inserted just distal to the end of the radius on the dorsal side and straight into the joint.
6. *Elbow Joint.* This may be entered posteriorly just proximal to the upper portion of the olecranon with the elbow flexed at right angle or it may be entered laterally.
7. *Ankle Joint.* The needle is inserted into the anteromedial aspect of the joint just above the level of the tip of the internal malleolus.
8. *Metacarpophalangeal, Metatarsophalangeal, and Interphalangeal Joints.* The needle is inserted on the lateral side of the joint.

In each case, a 20-22 mm. gauge needle was inserted on an empty 2 cc. or larger syringe. If fluid was present in the joint, it was aspirated. Then, hydrocortisone was loaded into another syringe through an 18 mm. gauge needle and injected into the joint through a smaller gauge needle which is already in place. The needle was withdrawn, the puncture hole was sponged with alcohol, dried, and a band-aid applied.

### *Mode of Action of Hydrocortisone*

The mode of action of the injected drug is still essentially unknown. Hollander has reported that the injected microcrystals of hydrocortisone disappeared within two hours in the synovial fluid of joints and made their way into the lining cells of the synovial membrane where they are retained. Hollander further is reported as concluding that hydrocortisone is about $\frac{1}{7}$ as soluble in plasma as cortisone and, therefore, may derive its anti-inflammatory qualities by remaining in the local area longer. Hollander and his group have reported the results recently obtained on the intra-articular use of hydrocortisone tertiary-butylacetate on 92 patients with knee rheumatoid arthritis and 79 cases with knee osteoarthritis. The difference between the hydrocortisone tertiary-butylacetate and the hydrocortisone acetate is that the butyl acetate type is supposed to be less soluble than the hydrocortisone acetate; however, no real appreciable difference was noted in the results obtained when the drugs were used separately on similar cases.

### *Observations*

The first and most important observation made was that hydrocortisone did not produce complete relief in all cases, and in some cases no relief whatever was obtained, while in other cases the pain was made worse. It has been said many times that the cases which become worse following the injection are due to the drug being injected inadvertently extra-articularly into the soft tissues. I do not consider this statement to be entirely true as a certain number of my cases became worse even when ten or more cc. of synovial fluid were removed from the knee joint prior to the injection of the hydrocortisone. In these cases, there was no question at all about the drug being injected directly into the joint proper. Also in these cases, the reaction was such that the additional pain could not possibly have been due to seepage of the drug and synovial fluid into the soft tissues through the puncture hole as in most cases the gauge of the needle used was quite small. In these cases, the pain and swelling if there was any, increased within two hours following the injection and the joint became warmer. The patient reported the reaction in most cases two to five hours after the injection. All of these cases cleared up within 24-48 hours with rest of the joint, mild sedation, and the application of cold compresses. Not a single infection occurred in the entire series.

Generally, however, the observations have been that there is an improvement which starts from a few hours to a few days after an injection and has lasted from a few days to many months. One patient has had no discomfort in her knee for thirty-one months following one injection for moderately severe osteoarthritis which was easily demonstrated by X ray. The over-all picture has been that ap-

proximately 8.5 joints out of every 10 injected have improved. The patient generally reports a decrease in pain, a decrease in stiffness of the joint and an increase in motion. Any one or any combination of these improvements may take place. It was observed that the longer a swelling had existed the less this was affected by the hydrocortisone. It was previously mentioned in this paper that any improvement which came about immediately following the aspiration of a joint was felt to be due to the release of pressure rather than to any immediate effect that hydrocortisone might have on the joint. The sedimentation rate of the blood was taken and complete blood counts and urinalysis were done on the first several cases of rheumatoid arthritis treated by this method, but no appreciable change took place even when a definite marked improvement of the symptoms took place. Injections were given at weekly intervals when deemed indicated. The injections were not repeated in cases where complete or marked relief was obtained. These patients were asked to return only when and if the symptoms recurred. If the patient obtained improvement but still had annoying symptoms, injections were repeated at weekly intervals until either marked improvement resulted or the injection was stopped because it was felt that it would be futile to continue the treatment. In cases where no relief whatever was obtained, the dose of the subsequent injection was doubled, but more than 2 cc. of hydrocortisone was never injected into a joint. If the larger dose did not produce the desired effect, no further injection was given. Repeated injections at varying intervals on joints previously improved had either the same effect or a better effect for even longer periods of time. In this series of cases, adjunct systemic therapy was used whenever deemed indicated. This included mild splinting, heat, codeine, aspirin, anti-gout drugs, and etc.

In the 1,072 cases treated, no case has been included which has not been followed for at least three months since the last injection. Of the total group, 267 or approximately 25% obtained so much relief after one to three injections that no further treatment became necessary for three months or longer. This group includes some cases of gout and traumatic arthritis. 643 patients or approximately 60% obtained temporary relief and have maintained their relief by periodic injections of from one month to three months. The remaining 162 or approximately 15% can be considered as failures as they did not improve after one single and one double dose of hydrocortisone.

Not included in the above statistics are some observations which were made when hydrocortisone was put into knee joints at the time of surgery. Your essayist has used hydrocortisone in 24 knee arthrotomies done for the removal of torn cartilages and has observed that these joints showed less post-operative swelling and had less pain than did similar cases where hydrocortisone was not used. Wound healing was not affected. In each case, 2 cc. or 50 mg. of hydrocortisone was put into the joint immediately prior to closure of the wound.

## CONCLUSIONS

1. 1,072 patients have been treated and have received a total of 6,433 injections of hydrocortisone acetate for an average of six injections each.

2. Approximately 85% of osteoarthritic and rheumatoid joints were improved by the injection. 100% of gouty joints were improved and about 89% of traumatic arthritic joints were improved.

3. A small number of cases were either not helped or were made worse by the injection.

4. The sedimentation rate and blood count did not seem to be affected by the intra-articular use of hydrocortisone acetate.

5. Hydrocortisone did not seem to have any appreciable effect on the production of excessive fluid in a joint.

6. The improvement reported generally consisted of decrease in pain, decrease in stiffness and increase in motion.

7. Hydrocortisone has a definite place in the treatment of selected cases of arthritis.

### BIBLIOGRAPHY

[1]Young, Herman; Ward, L. Emmerson, and Henderson, Edward: "Use of Hydrocortisone Acetate in Orthopedics." The Journal of Bone and Joint Surgery, Vol. 36-A, No. 3 (Amer. Vol.) 602-609 (June) 1954

[2]Hollander, Joseph Lee: "Intra-Articular Hydrocortisone in Arthritis and Allied Conditions." Journal of Bone and Joint Surgery, Vol. 35-A, No. 4 (Amer. Vol.) 983-990, (Oct.) 1953

[3]Sacks, S.: "The Use of Hydrocortisone Acetate by Intra-Articular Injection for a Variety of Orthopedic Conditions." South African Med. Journal (March) 1953

[4]Hollander, Brown, Jessar, & Brown: "Hydrocortisone & Cortisone Injected into Arthritic Joints." J. Am. Med. Assn. No. 147, 1629-1635, 1951.

[5]Kaplan, R.: "Septic Arthritis After Intra-Articular Injection of Hydrocortisone." J.A.M.A. 155:597 (June 5) 1954 (in correspondence)

[6]Zacco, M.; Richardson, E. M.; Crittenden, J. O.; Hollander, J. L.; and Dohan, F. C.: "Disposition of Intra-Articularly Injected Hydrocortisone Acetate, Hydrocortisone and Cortisone Acetate in Arthritis" 1. Concentration in synovial fluid and cells. J. Clin. Endocrinol. & Metab. 14:711-718 (July) 1954

[7]Hollander, J. L.: "Intra-Articular Injection of Hydrocortisone." J.A.M.A. 155:1445 (Aug.) 1954 (in correspondence)

[9]Murley, A. H. G.: "Tennis Elbow." Lancet 2:223-225 (July 31) 1954

[10]Weiss, T. E.; Duncan, T.; and De La Cruz, B.: "The Local Injection of Hydrocortisone in the Treatment of the Painful Joint." J.M.A. Georgia 43:629-631 (July) 1954

[11]Duff, L. F.; Mikkelson, W. M.; Robinson, W. D.; and Chatelin, N. H.: "Intra-Articular Hydrocortisone in Rheumatoid Arthritis." Internat. Rec. Med. 167:515 (Sept. 1954) (in Soc. Proc.)

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# CHRONIC GRANULOMATOUS ILEITIS AND JEJUNITIS*

## *The Dr. Isaac Gerber Oration*

RALPH COLP, M.D.

The Author. *Ralph Colp, M.D., of New York, New York. Attending Surgeon, Mount Sinai Hospital; Clinical Professor of Surgery, Cornell University Medical School.*

ALTHOUGH non-specific granulomas of the gastrointestinal tract had been recognized previously, it was not until 1932 that Crohn, Oppenheimer, and Ginzburg[1] described the pathologic changes, symptoms and treatment of a sub-group which they called "regional ileitis." Since their communication, other significant observations have been reported. It soon became apparent that in addition to the terminal ileum, the granulomatous process involved either separately, or in combination, the cecum,[2] other parts of the colon, the jejunum, the ileum, and occasionally the duodenum and the stomach.

This presentation will be concerned solely with the subject of chronic granulomatous regional enteritis. It will not discuss this disease either in conjunction with coincidental simple chronic ulcerative colitis, with chronic granulomatous colitis, with localized colitis in the region of an enterocolostomy, or the ileitis which occasionally follows a colectomy for ulcerative colitis.

### *Etiology*

No cause has been definitely established, although many pathologic conditions and agents have been suspected such as specific bacteria, bacillary dysentery, protozoa, viruses, sarcoidosis, trauma and hereditary factors. Janowitz[3] aptly states, "speculations regarding the pathogenesis of the disease process should be rooted in the known facts of the natural history of the disease. Three such facts are paramount. (a) The vast majority of patients have the initial lesion in the terminal ileum. (Up to 80% in some.) (b) Diversion of the fecal stream by short circuiting operations leads in the majority of instances to regression of the process in the excluded areas of the intestine. (c) Recurrent lesions in the overwhelming number of cases are again localized in the new terminal ileum. These facts suggest that the noxious agent is present in the intestinal stream. They also suggest that the agent or agents may be water soluble, may be concentrated as the intestinal contents are propelled through the small bowel, and may become absorbed by the lymphatics of the ileum which are so rich in the region of the ileocecal valve. Here they may set up their characteristic proliferative sclerosing endolymphatic reaction."

### *Pathology*

Chronic regional ileitis is characterized by a submucous necrotizing and cicatrizing inflammation. While the disease seems to have a predilection for the terminal ileum and may end there abruptly, it may involve any area of the small bowel segmentally or diffusely. Grossly the serosa of the bowel is red, congested and often covered with exudate. Its walls are extremely thickened, edematous, leathery and rigid. Various segments of the intestine may be grossly involved by "skip areas" separated by areas of normal bowel which are usually dilated. The corresponding mesentery is usually edematous, and rigid, and the lymph nodes are inflamed and definitely enlarged. Upon opening the intestine, the normal mucosa is altered and may have a granular cobblestone appearance. This is due to linear ulcers usually parallel to, and mainly along the mesenteric border. These ulcers often penetrate into the submucosa and muscularis forming abscesses which are responsible for fistulous tracts. The latter may form between adjacent loops of bowel, the colon, the rectum, the ureter, the bladder, fallopian tubes and the vagina.

A fistula to the anterior abdominal wall may develop subsequent to either an appendectomy or the spontaneous rupture of an abscess from an unrecognized ileitis. More rarely, the abscesses may point retroperitoneally in the inguinal or the lumbar region. Rectal or recto-vaginal fistulas, which are quite common, may result from the devious tracting of infection from the small intestine. It should be remembered, however, that an infection of the crypts of Morgagni due to a diarrhea may result in ischiorectal abscesses.

*The 8th Annual Dr. Isaac Gerber Oration, delivered at Miriam Hospital, Providence, Rhode Island, October 19, 1955, under the sponsorship of the Miriam Hospital Staff Association.

The microscopic appearance which is not pathognomonic, consists of acute, subacute and chronic inflammation.

According to Otani,[4] there are extensive collections of plasma cells and lymphocytes in the submucosa. The muscularis is hypertrophied and inflamed, the latter process extending to the serosa, and the fat tissue around the intestine accounting for the segmental thickening of the intesinal wall. Multiple small epithelial tubercle like nodes with occasional giant cells can be seen in the submucosa musclar layers, serosa and fat. Some show central necrosis, some suggest caseation, but the presence of tubercle bacilli have never been found. Healing and scarring of the ulcerated areas may also be seen, and these isolated areas which become hypertrophied are polypoid in appearance. The lymphatic infiltration in the submucosa and serosa often form lymph follicle arrangements.

### *Symptomatology*

The disease is widespread geographically. It has no predilection for either sex or age group, and may even affect children. It is occasionally seen in an acute phase at which time a diagnosis of appendicitis may be made. At operation, the terminal ileum may be acutely inflamed and the appendix involved by contiguity. We now know that the removal of the appendix may lead to a persistent fecal fistula and that these cases when treated conservatively, usually subside. If symptoms persist, operation may be performed at a later period.

While there are instances in which chronic ulcerative granulomatous enteritis may be so insidious in onset that it produces no symptoms until late in the disease, patients usually give a history of general malaise, loss of weight, easy fatigability, diffuse abdominal discomfort, a mild diarrhea, and often discharging perirectal sinuses. As the diarrhea increases, colicky pain develops, occasionally with the development of intermittent intestinal obstruction, although this is rarely complete. The diarrhea is usually mild, the stools being liquid or semi-solid, often with mucous and may contain occult blood. More rarely the first intimation of the disease may be a severe melena or the sudden appearance of a cloudy, foul smelling urine, or an odorous vaginal discharge. In other instances there may be no abdominal complaints, just a persistent low-grade temperature, which is often ascribed to rheumatic fever, or possibly an endocarditis. In other cases with definite bowel symptomatology, high septic types of temperature and chills are seen. A secondary anemia of the hypochromic microcytic type is invariably present. Physical examination may disclose, in addition to anemia, loss of weight and low-grade fever, the presence of external fistulae, or an abdominal tumor. The site and number of the external sinuses may vary as does the location of the mass which may be palpable in the right lower quadrant, or by rectum or vagina.

### *Roentgenologic Findings*

These have been described by Sussman and Wachtel,[5] and more recently by Wolf and Marshak.[6] They shall be only briefly outlined. Initially, in the acute stage, examination of the small intestine may reveal in any area, only an alteration of the mucous membrane pattern which is indistinguishable from avitaminosis and sprue. In the subacute and chronic stages leading to stenosis, the findings are more characteristic because there is rigidity of the bowel with narrowing and a loss of mucous membrane pattern. Large inflammatory polyps may be seen occasionally. Skip areas of the disease alternating with dilated loops of intestine are characteristic. The pipe stem appearance of the terminal ileum called the "string sign" is pathognomonic of the disease. This is due to irritability and spasm of the bowel with marked ulceration. Fistulous tracts, characteristic of ileitis, may frequently be demonstrated.

In jejunoileitis, skip areas are fairly common, but fistula formation is less frequent. Those cases in which the jejunum alone is involved are apt to be characterized by a marked stenosis with extreme dilatation either of the proximal bowel, or the bowel between the skip areas.

### *Diagnosis*

As a rule this is not difficult. Yet it is amazing how frequently in the face of an obvious symptomatology, X-ray examination is not performed and the patients are treated either as psychoneurotics, or are regarded as having a simple diarrhea or mild colitis. In a boy of thirteen with mild gastroenteric complaints, the condition was regarded as neurosis. He was treated by a psychoanalyst for four years until vomiting and signs of an intestinal obstruction developed. X rays then revealed a localized jejunitis. Atypical forms of the disease may be baffling and there are instances in which amaebic dysentery, idiopathic colitis, abdominal Hodgkin's, lymphosarcoma and sarcoidosis, as well as from tuberculosis, which must be eliminated. Ordinarily, however, the presence of a mild diarrhea with abdominal cramps, fever, and the presence of an abdominal mass or rectal fistulae, should be sufficient to make one suspect the presence of regional enteritis which subsequently may be substantiated by X-ray examination.

### *Treatment*

The enthusiasm twenty years ago for immediate surgical intervention as a definite cure for this disease has gradually been dispelled by the rising incidence of recurrences following surgery. A

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clinical history confirmed by the X-ray diagnosis of regional ileitis does not necessarily mean surgical intervention. We know that the disease may remain stationary with a paucity of symptoms, and occasionally even diffuse jejunoileitis has been known to spontaneously disappear. Unfortunately there is no specific medical treatment and antibiotics and cortisone are of dubious value. But some patients do respond to supportive treatment consisting of rest, a high protein diet with adequate carbohydrate, vitamins and blood transfusions and may go for years with little alteration in their physical condition. However, if there is a progressive loss of weight, a debilitating diarrhea, cramps with partial intestinal obstruction, persistent temperature, palpable masses with draining fistula, operation becomes mandatory.

Prior to surgery, however, these patients should be adequately prepared. If necessary, parenteral fluids and blood should be administered. The usual bowel preparation with intestinal antibiotics is prescribed, but cathartics are carefully given. The fact that loops of bowel may be matted together by dense adhesions and fistulous tracts, and partially obstructed, makes intestinal intubation advisable a few days prior to operation. The long tube not only effectively decompresses the bowel, but the tip of the tube points distally affording identification of the proximal bowel.

We employ spinal anesthesia routinely. A lower right rectus muscle splitting incision is usually made unless roentgenologic examination reveals isolated pathologic changes high in the left upper quadrant. The entire bowel is examined from the ileocecal junction proximally. The severity, extent, the location of the disease, and the presence of fistulae are noted. The question then arises as to whether a resection or simple side-tracking of the diseased intestine should be performed. Originally in cases of terminal ileitis, I routinely resected the involved ileum and part of the colon and restored continuity by a side-to-side ileotransverse colostomy. At that time the mortality was appreciable. In order to lower it, a two-stage operation seemed indicated. At the primary stage only an ileal division with ileocolostomy was done leaving the resection for a later period. However, after the first stage, following the defunctionalization of the diseased area, most patients gained weight and lost their symptoms, the inflammatory mass disappeared, and the discharging cutaneous fistulae, if present, healed rapidly. It seemed that resection could be definitely postponed. In 1939, Ginzburg, Sussman and I[7] reported nineteen cases in which a satisfactory result was obtained by this simple procedure. Since then it has been the operation of choice.

The technique of ileal division and ileotransverse colostomy is simple. However, there are some fundamental principles which must be rigidly followed. If the terminal ileum is the seat of the disease, the intestine should be followed in an oral direction until one is reasonably certain that the bowel is divided at least 60 cm. proximal to the last visible skip area of disease. It is granted that areas of incipient disease cannot always be recognized at the time of operation because the mucosal and submucosal lesions are often so small that they defy manual or visual detection. Therefore it is advisable to take a biopsy of the proximal ileum which is to be used for anastomosis for immediate frozen section. The examination may reveal microscopic evidence of acute and chronic granulomatous changes. This added precaution may diminish but does not completely eliminate the incidence of recurrence in the proximal ileum.

When many feet of bowel are to be excluded, it is extremely important to constantly bear in mind which end of the divided ileum is distal, and which is proximal. A double check should always be made to insure the anastomosis of the proximal ileum to the transverse colon. I have seen some tragic mistakes made due to carelessness in this regard. The proximal bowel is sutured to the midpart of the transverse colon isoperistaltically, preferably using side to side anastomosis. The anastomosis should be wide in length so that if a proximal ileal recurrence takes place, the stoma will not be obstructed completely. Care should be taken so that there is no blind pouch of ileum left protruding beyond the anastomosis because this cul de sac will gradually dilate, often to such dimensions as to cause disagreeable abdominal symptoms.

If the disease is extensive the question arises as to how much small intestine can either be side-tracked or resected with safety. We have read occasional reports that following massive resection for superior mesenteric thrombosis in which only a foot and half of the jejunum remained, the patient survived. Similar cases have been reported after resection for jejuno-ileitis, but from my own observation many of these patients finally succumb from the effects of malnutrition.

There is no way in which one can judge in a particular case how much intestine must be preserved so as to insure life. Patients vary greatly in their ability to maintain adequate nourishment following massive resection. I have one patient, who following a series of resections, now only has 40 inches of proximal jejunum. He is perfectly well and maintains his weight. However, I have another patient in whom I did a primary side-tracking of many feet of ileum and an extensive recurrence developed. At the time of the second operation, after excluding the disease only three feet of jeju-

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*Owned and Published Monthly by the Rhode Island Medical Society*
*106 Francis Street, Providence, Rhode Island*



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## WHAT'S AHEAD? POLITICS, TAXES, AND SOCIAL SECURITY

THERE ARE UNDOUBTEDLY thousands of physicians to whom the Congressional bill H.R. 7225 means little or nothing today. Every physician will know plenty about the bill, under that catalog number, or any other number, before the year 1956 is far on its way.

There are millions of taxpayers of the country who are ignorant of the costs for, or in the first instance the need for, revisions to the Social Security System as proposed during the current session of Congress, and passed under a "gag rule" by the House of Representatives with no public hearings and a limited forty minutes of debate on the House floor. These millions of taxpayers must be informed fully, and clearly, of the implications in the proposals that will be renewed in Washington next year, and the information must be devoid of the emotionalism and political flag waving that characterized the discussion in the House of Representatives last July.

Passed by the House, and now to be heard and debated by the Senate, House Bill 7225, the Social Security Amendments of 1955, would provide:

1. Payment of monthly benefits at or after age 50 to workers who are totally and permanently disabled.

2. Lowering the retirement age for women to 62.

3. Continuance of monthly benefits to children who become totally or permanently disabled before age 18.

4. Expansion of old-age and survivors insurance coverage to the self-employed professional groups now excluded—except physicians—and to certain farm owners.

5. An increase of the tax rate on employers and employees by one-half per cent, and three-fourths per cent on the self-employed, effective January 1, 1956.

Aside from the tremendous potential tax burden that the continued expansion of the Social Security System will place upon every taxpayer, the medical profession has great additional concern regarding the further invasion of the Federal government in the realm of medical care.

A worker must be unable to engage in any substantial gainful activity, by reason of any medically

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determinable physical or mental impairment which can be expected to result in death or to be of long continued and indefinite duration. A waiting period of six consecutive months is required before a worker would be eligible for benefits. This in itself presumably lends an appeal to the next step in the socialization plan—temporary disability benefits while waiting the determination of total disability, with the physician, pressured by patient and federal agency, the key figure in the issue even though he is ignored in the legislative planning.

If anyone has any doubts that the Federal Social Security System, offering as it does some income for millions of people in their later years, is not being used as one of the most powerful weapons of political bodies and their leaders to get and retain themselves in power, a reading of the limited debate on the legislation in the Congressional House of Representatives last July will readily dispel it.

Consider some of the emotional generalizations voiced on the floor in the forty-minute "gag rule" debate on these proposals that would saddle the American people with additional billions of dollars taxation. Hear you this:

"What right-thinking person can argue against extending coverage to disabled children over 18 whose deceased parent has helped to pay for such coverage, or workers disabled at age 50?"

"Understanding the problem that women over 35 years of age have today, in seeking employment, how can anyone deny them old-age or survivor's benefits at age 62? . . ."

". . . The lowering of the benefit age for women to 62 years of age is a step in the right direction, but 10 years ago I advocated the lowering of this age . . . to 60 years. . . ."

". . . We still place a limitation on when a beneficiary can actually receive total and permanent disability benefits . . . at 50 years. . . . If we are to have total and permanent disability . . . (it) . . . should be made effective for all those covered by Social Security at the time it occurs, be it age 50, 40, or 35 years. . . ."

"Another and important amendment which I have been sponsoring over the years, and which will eventually become law, provides 60 days of free hospitalization for all recipients of Social Security benefits. . . ."

Step in the right direction? Better face it. The politicians aren't stepping, they are running to see who can give away the most benefits, each confident that he will not be around at the future date when the succeeding generations cry out against the unjust tax burden piled on their shoulders when they were babies. But who cares about taxes today, especially when a "bargain" is involved, infers one of our Congressmen who said:

"I am firmly convinced that upon enactment of the pending legislation, H.R. 7225, the Social Security System will be actuarily sound. The tax increases proposed in this bill seem heavy to many people. They are substantial. Yet they are necessary to preserve the soundness of the trust fund, and where can anyone obtain so many benefits for so low a price? . . ."

Who says the system is sound, and the proposals good ones? Industrialists, insurance authorities, professional leaders, actuaries? *No.* Just the Social Security "experts"—experts in socialization, certainly—for the record relates:

"Mr. Speaker, any impression that this bill has not been thoroughly and adequately considered is simply not a statement of fact. This bill was considered in executive sessions of the Committee on Ways and Means with the experts of the Social Security Board present every day in at least 15 to 20 meetings. . . ."

Perhaps by now you are wondering if your Congress knows of the work done by the states, by private and public agencies to care for the needy, the unfortunate, and the disabled. Cease wondering, and note how subtle is the memorandum on House Bill H.R. 5057, a bill to provide disability insurance, wherein public assistance and public charity, keystones of our democratic system, are categorized as "public dole" with the offensive connotations that term carries—

"Many income studies conducted during recent years point out that disability and low income go hand in hand in many instances. These studies point out that among urban families in the low-income class one of the chief causes of poverty was traced to the disability of the head of the family.

"Other studies also show that disability accounts for a very large portion of public relief expenditures. This also applies to private charity which helps an additional number of disabled persons.

"By providing a systematic program of social insurance against a disability, it would be possible in time to reduce the need for relief and public dole. . . ."

With medical care and rehabilitation of the disabled paramount issues, you are certain that experts in those fields were on hand when this vital legislation was reviewed with the Social Security "experts." But were they? Not according to the *Record*—

". . . Our states and private enterprise, and indeed, the Federal government, have made tremendous strides in the field of rehabilitation. Any disability program must be carefully geared

into the rehabilitation programs. . . . No person in the rehabilitation field was even called before our Committee to discuss the matter. . . ."

Surely some of the members of Congress resented the tactics carried out in July; undoubtedly many felt as the member who stated:

"Now here today, if you please, supposedly I am jockeyed into the position of either voting for this improperly conceived or studied bill in its entirety or of being branded as one not interested in the welfare of my fellow man. Now does anyone here deny that that is the essence of the procedures followed by our leftwing political element who have so long and too long, in my judgment, dominated American political thinking. Either you agree with their brand of government or you are against the people, against the little man. . . ."

How, then, did this legislation ever pass the House of Representatives without public hearings, and without unlimited debate on the controversial issues involved? Was it a face-saving gesture as indicated by one Congressman who said:

"The matter before us today is just incidentally the subject of Social Security. The real matter before us is the reputation of the Ways and Means Committee, and the reputation of the House of Representatives. . ."

Or was it not less in the interest of public welfare and more in the interest of political control in 1956, as indicated by the statement that:

"The 2.8 million additional beneficiaries that will eventually become eligible for benefits under these liberalizing amendments warrant the support of the Republican members of the House, as well as the Democratic members. . . ."

What's ahead? What do the advocates of individual responsibility for one's own welfare need to do to put a stop to this unwarranted abuse of the taxing power of government?

A. L. Kirkpatrick, writing in the publication AMERICAN ECONOMIC SECURITY offers this thought-provoking answer—

". . . To put it broadly, it seems obvious that we need to reorganize our ranks, review both our offensive and defensive strategy and to launch an action program aimed to awaken a sleeping population to what is going on largely unknown to it. At least many people appear to have no conception of the long range implications and cost of the program that is being gradually projected upon them.

"We are living in what Sir Winston Churchill might call an attempted state of 'peaceful coexistence' with the welfare pressure groups, with the forces which are seeking to make the individual subservient to government. But Sir Winston also pointed out that any attempt at 'peaceful co-existence' with aggressors must be 'vigilantly guarded.' The businessmen of the country, years ago, accepted our national old age and survivorship program as a basic part of our economic system, on the promise that its benefits should be kept at a 'minimum level.' In the light of the pressures which have developed for more and higher benefits and the relative ineffectiveness of the resistance to the expansion, many are now wondering if they made a mistake in agreeing to 'peaceful co-existence.' "

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## CHRONIC GRANULOMATOUS ILEITIS AND JEJUNITIS

*continued from page 694*

num remained to anastomose to the sigmoid. She ran downhill and months later she was explored. The excluded bowel attached to the transverse colon now appeared grossly normal so that I took down the jejunosigmoidostomy and restored the continuity of the bowel. Following this there was a reactivation of the jejunoileitis. Fortunately for the past ten years she has been successfully maintained by rest in the hospital with blood transfusions and special diets high in proteins.

Massive resections are to be avoided whenever possible. It is better to be less radical and resect localized areas of jejunal disease with a side to side jejunostomy.

While the side-tracking procedure is our first choice, there are indications for resection. This becomes necessary when there are fistulae between the ileum and the sigmoid, or ileal disease has produced areas of extreme stenosis. There are also objections to ileostomy with exclusion. In our experience the fear that sufficient intraluminal pressure might endanger the suture line of the excluded ileum has not been substantiated. Nor have we ever witnessed ulceration with perforation from the pressure of stercoraceous masses accumulating in the blind colic loop. For retrograde peristalsis is present in the colon normally, and when an impulse is received distally, the colon responds by emptying itself in the usual direction.

It was also predicated that in cases in which the ileosigmoidostomy was performed, the emptying of the fluid contents of the ileum might irritate the sigmoid and rectum and produce diarrhea. This has not been observed in any case in which the sigmoid was found to be normal at the time of operation. As a matter of fact the diarrhea which was previously present has disappeared in every case of right-sided colitis and ileitis. In a number of instances, previously discharging perianal fistulas healed instead of becoming aggravated.

In a number of instances, post-operative studies were made with barium enema. These showed no abnormal dilatation or distention of the bowel and the excluded colon and the haustrations and sacculations were normal even after years of unilateral exclusion. When a barium enema is administered, there is, as a rule, retrograde passage through the ileocolic stoma as well as into the excluded bowel. Moreover the force of barium is sufficient to carry the contrast medium to a point much farther than occurs ordinarily by retrograde peristalsis.

At the conclusion of either an exclusion or resection procedure, the abdomen is closed without drainage. The intestinal tube is retained until peristalsis returns as evidenced by the passage of gas and feces by rectum. In a collected series,[8] the mortality rate for resection was 11.2%, and for side-tracking 4.6%.

Post-operatively most of these patients do well. Their appetite returns and they gain weight. The stools become soft in consistency and movements occur about three times a day without cramps.

### *Recurrences*

Unfortunately, however, there are some patients who do not remain well. Many patients within a few months to a year have a return of all symptoms for which they sought relief. In others the duration of the symptom-free interval after primary operation for regional ileitis can be surprisingly long. This is illustrated by cases in which the patients remained well for more than fourteen years before a recurrence was manifested clinically. Freedom from symptoms does not necessarily mean eradication of disease. In one case, recurrence was demonstrated by roentgenologic examination after nine years of complete well-being. Despite this, the patient remained well clinically for five more years. In another case, persistent disease in an excluded loop was eradicated by resection after twelve symptom-free years. This procedure was followed by an asymptomatic proximal recurrence which has lasted two years to date. There is one case which deserves special mention. The patient had all the complications of regional ileitis, namely peritonitis, intestinal obstruction, abdominal mass and fecal fistula. In six years he underwent seven major operations for his disease. A "cure" was obtained by secondary ileal division with ileosigmoidostomy, and he has remained well for the past seven years.

The incidence of recurrence in regional ileitis is much more frequent than was originally reported, and it would appear that this will increase in direct proportion to the length of time that the patients are followed. The recurrence rate was about 29 per cent in 781 cases collected from the literature in which a simple occlusion operation was performed and 21.8 per cent in 2,209 cases in which resection was performed. The type of surgical procedure, therefore, appears to have little influence on the ultimate course of the disease. Clinical experience seems to indicate that the fate of the patients depends upon whether or not the disease is definitely localized and remains localized to a comparatively small segment of terminal ileum in which the disease has been completely resected, or completely side-tracked.

Most recurrences are noted in the proximal ileum at the site of the anastomosis. Many of these are undoubtedly due to skip areas of disease which defied detection at the primary operation. It is these foci which undoubtedly account for the early further extension and progression of the disease. It is difficult to explain the very late recurrences on

*continued on page 700*

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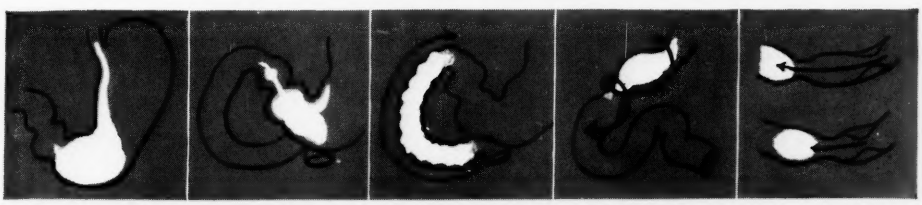

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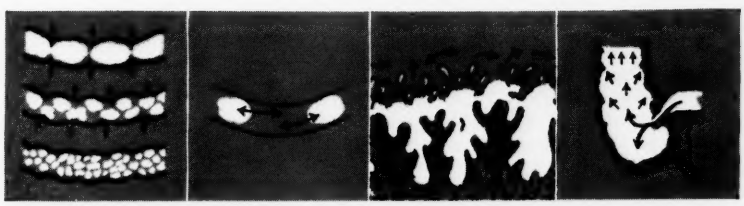

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SEARLE

## CHRONIC GRANULOMATOUS ILEITIS AND JEJUNITIS

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this basis for it is unlikely that skip areas have remained dormant for ten to fifteen years.

It would appear more logical to postulate that the unknown factors which originally caused the disease and were altered by the surgical procedure may again have become potent. The presence of an active or dormant lesion in an excluded distal portion of the ileum probably plays no part in this type of recurrence. It is unlikely that the defunctionalized bowel acts as a focus from which the disease can travel via the mesenteric lymph vessels to involve the proximal bowel at or near the site of the enterocolostomy. Exploratory inspection of the excluded ileum and examination of the defunctionalized area resected at a second stage, usually shows that the disease has undergone regression or healing after complete diversion of the fecal content.

On the other hand, it cannot be denied that persistence of the disease in an excluded ileum does occur. In such cases, further ulceration from areas of disease in the side-tracked ileum may lead to fistulous communications with other intestinal loops, the sigmoid and rectum. This is a serious complication of enterocolostomy with exclusion and one of the strong arguments in favor of primary resection in all cases. Nevertheless I do not believe that the unusual instances of persistence of disease in the excluded ileum condemn ileocolostomy with exclusion. Moreover an ileocolic resection may always be done as a second stage procedure if necessary.

The problem of recurrent ileitis therefore, is the treatment of the disease usually in the proximal portion of the small bowel near or at the site of the ileotransverse colostomy. If the symptoms are not severe, patients may be treated conservatively. If surgery becomes necessary, the question again arises as to whether a resection of the diseased bowel, or a second side tracking should be performed.

In cases in which there is a recurrence in the proximal portion of the ileum, after either resection or exclusion, and in which an ileotransverse colostomy has been performed, a second ileal division with an ileosigmoidostomy offers a conservative solution to a complicated problem in which radical operation may become extremely hazardous. It may be technically difficult to separate edematous thickened friable bowel from other viscera and take down the previous anastomosis. Resection of this type of intestine with its thickened, edematous gland-bearing mesentery entails an operative risk. There is ample evidence that the disease in the defunctionalized bowel attached to the transverse colon regresses to much the same extent as it does in the primary excluded ileum. In one case the patient died two and one-half years after ileosigmoidostomy with an ileal division for rcurrent ileitis following a primary resection with ileotransverse colostomy. Autopsy revealed that the excluded bowel which measured 27 cm. in length from its anastomosis to the transverse colon was grossly normal and that there was no further evidence of the disease. In another case the patient entered the hospital because of an intestinal obstruction three months after a secondary ileosigmoidostomy with ileal division for proximal recurrence. Exploration disclosed that the acutely inflamed bowel which had been previously excluded was normal in appearance. A barium enema given to another patient two months after a secondary exclusion revealed that the local inflammation at the region of the ileotransverse colostomy had subsided.

Some of these patients, particularly during periods of emotional upset have had frequent bowel movements, but not to a disturbing degree. No symptoms have developed thus far which could be attributed to the presence of the isolated ileal loop which was left attached to the transverse colon.

While surgery in secondary cases in which it is indicated is undoubtedly followed often by another recurrence, the majority of patients are benefited, and many go years before a recrudescence of their disease becomes clinically evident.

## SUMMARY

The etiology, pathology, symptomatology, roentgenologic findings, and diagnosis of chronic granulomatous ileitis and jejunitis have been described. The treatment has been detailed, emphasizing that surgery should only be performed for definite indications. A preference for side-tracking ileotransversecolostomy with ileal division rather than resection of the area of the disease was expressed. The question of massive resections for jejunoileitis has been discussed.

The high incidence of recurrence has been stressed, and here too, a conservative method of surgical treatment, if necessary, was outlined.

### BIBLIOGRAPHY

[1]Crohn, B. B.; Ginzburg, L., and Oppenheimer, G. B.: Regional Ileitis: A Clinical and Pathological Entity. J.A.M.A. 99:1323, Oct. 15, 1932

[2]Colp, R.: A Case of Non-Specific Granuloma of the Terminal Ileum and the Caecum. S. Clin. North America, 14:443, 1934

[3]Janowitz, H. D.: Problems of Regional Ileitis. J. Mt. Sinai Hospital, New York, XXII:223, 1955

[4]Otani, S.: Pathology of Regional Enteritis. J. Mt. Sinai Hospital, New York, XXII:147, 1955

[5]Sussman, M. L.; and Wachtel, E.: Granulomatous Jejunocolitis Radiology, 39:48, 1942

[6]Marshak, R. H. and Wolf, B. S.: Roentgen Fndings in Regional Ileitis. J. Mt. Sinai Hospital, New York, XXII:192, 1955

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# CLINICOPATHOLOGICAL CONFERENCE

## Presented before the Providence Medical Association, October 3, 1955

MARSHALL N. FULTON, M.D., *Moderator;* JOHN C. LEONARD, M.D., AND THOMAS A. WARTHIN, M.D., *Clinical Discussors;* AND CAMPBELL A. MCNICOL, M.D., *Pathologist*

### SUMMARY OF CASE

#### *First Admission*

A FIFTY-NINE-YEAR-OLD, white, married school bus driver was admitted to the hospital on March 27, 1953, complaining of fever of one month's duration. His health had been good until approximately four to five weeks prior to admission when he noted symptoms of fever, chilliness, constant frontal headaches, anorexia, and weight loss of at least 10 pounds. He had been treated with chloromycetin, but there had been no favorable response.

*Past history* was significant for bilateral inguinal herniorrhaphy in 1945, hemorrhoidectomy in 1946, right lower lobe pneumonia in 1949, chronic cough for many years (attributed to cigarettes), and demonstrated duodenal ulcer fifteen years prior with persistent symptoms of belching and epigastric fullness.

*Physical examination* revealed a well developed and well nourished male in no apparent distress but with the appearance of chronic illness. Temperature 101°. Pulse 92. Respiration 26. B.P. 148/70. Skin, axillae, groins and pubis regions showed hypertrophic hyperpigmented papillae consistent with acanthosis nigricans and scattered seborrheic senile keratoses. Teeth were carious and the pharynx slightly injected. The lungs showed questionable moist rales at the left base and axilla. Heart was not enlarged, the sounds were faint, no murmurs were audible, and A-2 equalled P-2. Abdomen showed questionable tenderness to deep palpation over the entire lower abdomen. Genitalia and prostate were normal.

*Laboratory studies*—The significant initial laboratory studies showed normal values for glucose and urea nitrogen, negative Hinton, negative agglutinations for typhoid, paratyphoid, Brucellosis and proteus X-19. Examination of the blood revealed: hemoglobin 7.0 grams, RBC 3,000,000, WBC 12,700, polymorphonuclears 83%, lymphocytes 19%, monocytes 8%, sedimentation rate uncorrected 65, corrected 26 m.m. in one hour. Serum protein 6.7, albumin fraction 1.9, prothrombin activity 20%. Urinalysis—specific gravity 1.006, protein 1, sugar negative, RBC 5 to 6, WBC 0-2, and Bence-Jones protein negative. Spinal fluid examination showed 1 WBC, chloride 126, glucose and protein normal.

*X-ray examinations* — Chest — moderate emphysema; otherwise not remarkable. Paranasal sinuses—normal. Oral films—marked pyorrhea of the upper and lower alveolar ridges. No abnormality was found in the intravenous pyelogram, the barium enema, the retrograde pyelogram, and in the gastrointestinal series. Cholecystogram showed a poorly functioning gall bladder. Electrocardiogram was normal.

*Clinical course*—During his entire hospital stay the patient ran an irregular spiking fever. The daily excursion usually ran from 100 to 103. He was given successive courses of the following therapeutic agents: dihydrostreptomycin and aureomycin, terramycin, nitrogen mustard and urethane. None of these measures appreciably affected his fever or symptoms.

Subsequent studies during his hospital stay included gastric analysis with a free acid of 65°, a total of 76; repeated blood cultures, all of which were sterile; a bone marrow aspiration which was reported as showing active hemopoiesis with an increase in plasma cells. Initial urine culture revealed a hemolytic staphylococcus. Cultures of the urine obtained at cystoscopy were all sterile. Bromsulphalein test showed retention of 5%. Sternal marrow smear negative for acid-fast bacilli. L.E. cell test, direct and indirect, negative. Serum calcium inorganic phosphorus and acid and alkaline phosphates within normal limits. Stools repeatedly negative for occult blood. Congo red test showed 19% disappearance in one hour. Stool cultures were negative for pathogenic organisms.

On May 11, 1953, an explanatory laparotomy was carried out. This revealed moderate enlargement of the liver and spleen. The remainder of the abdominal organs were palpated and found to be normal. The gall bladder was removed and a liver and muscle biopsy performed. The specimens were reported as showing moderate fatty metamorphosis and pericholangitis in the liver, chronic cholecystitis and a "fragment of striated muscle." Direct laryngoscopy by the anesthetist at the time of operation revealed the trachea to be deviated to the left of the midline. The patient had a moderate drop in temperature following the operation, but this soon resumed its previous febrile level. Following sev-

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## CLINICOPATHOLOGICAL CONFERENCE

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eral blood transfusions which did not appreciably affect his hemoglobin level, he was discharged unimproved on the sixty-second hospital day.

### *Second Admission*

Patient was readmitted approximately twelve months after his previous entry on March 13, 1954. In the ten months between admissions his course had been progressively downhill. He had received cortisone with only temporary effect and he continued to have intermittent fever, increasing weakness, weight loss, dyspnea, and constipation. Just prior to admission he had a sudden attack of unconsciousness lasting 30 minutes, following which he became as alert as usual.

The significant findings on this admission were temperature 98.4°, pulse 76, and B.P. 100/62. He was extremely emaciated, pale, dehydrated, and apprehensive. A grade II apical systolic murmur was present, abdomen was negative, and no additional physical findings other than those present on his previous admission were detected.

*Laboratory studies* revealed hemoglobin 2.4 grams, WBC 19,350, polymorphonuclears 98%, lymphocytes 2%, RBC 1,900,000. Total protein 4.7 with albumin 2.0. Icteric index 3.0. Urinalysis—specific gravity 1.018, protein 3+, sugar negative, sediment, RBC 0 to 1, WBC 15 to 20, and Bence-Jones protein negative.

*X-ray examination*—Chest x-ray now revealed a very large mediastinal tumor mass which extended in all directions from the upper mediastinum and was somewhat lobulated in outline. The lung fields appeared clear and a metastatic bone survey was negative.

Blood culture was sterile. The *electrocardiogram* showed an irregular rhythm due to auricular flutter with some variation in the A.V. response.

*Clinical courses*—During his stay the patient ran a daily temperature up to 101°. He received blood transfusions. On the eighth hospital day he developed a right flaccid hemiplegia and periodic seizures of twitching of the right side of the face. He became aphasic, his temperature rose to 102°, and he expired on the ninth hospital day.

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*John C. Leonard, M.D. Director of Medical Education, Hartford Hospital; Associate Clinical Professor of Medicine, Yale Medical School.*

I shall divide my subjects for Differential Diagnosis into three sections:

I Infection
II Collagen Disorders
III Malignancy

I *Infections.* I shall discuss only those infections which may be atypical or difficult of diagnosis. Among these are: a) Osteomyelitis, b) Esophageal perforation (e.g. Foreign body with resultant mediastinitis), c) Perinephric abscess, d) Subphrenic abscess, e) Appendicitis with pylephlebitis, f) Cholangitis with liver abscess or abscesses, g) Amebic abscess of liver, h) Subacute bacterial endocarditis with organism difficult to culture and i) Tuberculosis.

I believe that we should rule these out because long term antibiotic therapy was ineffectual.

II *Collagen Disorders.* a) Periarteritis (Polyarteritis) Nodosa and b) Dermatomyositis.

We shall rule out the collagen disorders because cortisone was not effective, not even in a temporarily palliative manner.

III *Malignancy.* I believe that this man died of a malignant tumor with metastases and I shall list some of those which this might be: a) Malignant melanoma, b) Teratoma (testis), c) Kaposi's sarcoma, d) Carcinoma of the male breast, e) Ca of Esophagus, f) Ca of Stomach, g) Ca of Gall bladder, h) Ca of liver (Hepatoma), i) Ca of pancreas and j) Ca of kidney, k) Ca of thyroid, l) Malignant Lymphoma (Hodgkin's or Lymphosarcoma), m) Myeloma, n) Lung and o) Thymus (Malignant Thymoma).

Since the diagnosis of Acanthosis Nigricans seems to have been well established we have further support for the evidence that this patient died of a malignancy. Such a malignancy may be either above or below the diaphragm but I feel, in this case, that the primary malignancy is above the diaphragm. While the primary malignancy is more likely to be one of the less rare variety, I should like to take a "flyer" and call this a Malignant Thymoma with severe, refractory anemia.

*Thomas A. Warthin, M.D. Chief of Medical Service, West Roxbury Veterans Hospital; Associate Clinical Professor of Medicine, Harvard Medical School.*

This fifty-nine-year-old, white, married, school-bus driver succumbed to an illness of thirteen months' duration, characterized by nonspecific constitutional symptoms, associated with continued fever and striking weight loss. Of outstanding

importance in the physical examination were the presence of hypertrophic hyperpigmented papillae in the axillae, groins and public region consistent with the diagnosis of acanthosis nigricans. This latter skin disorder[1] is one of three skin abnormalities which have been found to have a highly significant association with an underlying carcinomatous lesion. Dermato-myositis and dermatitis herpetiformis have also been found to have a close, but not as striking, association with malignant disease. Acanthosis nigricans may appear prior to puberty and in these instances does not carry the "malignant" relationship that one associates with the adult type. A pseudo-acanthosis must also be distinguished from this and is found only in obese, darkly pigmented individuals; whereas, the adult (malignant) type is found in individuals of all degrees of pigmentation and physical nutrition. An interesting factor in this relationship is that it is essentially 100% consistent in its occurrence. The skin lesion may precede by some year or years the occult development of the carcinoma and will fluctuate in intensity during periods of treatment directed toward the tumor. The carcinoma is invariably an adenocarcinoma and characteristically has its origin in the abdominal organs rather than from the lung or breast, although the latter association has been noted. With this background and with the typical clinical description in this patient one's search for the fatal tumor has already become somewhat limited.

We are given two additional leads to assist us in our diagnosis. The first, is the appearance of electrocardiographic changes during the final hospitalization which are in keeping with the type associated with tumors involving the heart and pericardium. The commonest tumors metastasizing to the heart are bronchogenic carcinoma; malignant melanoma; various sarcomas, including lymphosarcoma and Hodgkin's Disease; and carcinomas of the esophagus, parotid, colon, adrenal, penis, pancreas, testicle, and kidney. Gastric carcinoma, for some reason, does this extremely rarely. In the series of autopsied cases reported by Gassman, Meadows, and Baker,[2] in the September, 1955, AMERICAN JOURNAL OF MEDICINE, metastatic carcinoma of primary unknown origin also is high on the list. We certainly can apply that to this patient.

The other point is the presence of a very large mediastinal tumor mass, lobulated in outline in the upper mediastinum noted in the terminal chest X ray. This type of tumor mass is often seen in carcinoma of the stomach or pancreas which has metastasized through the lymphatics to this mediastinal area.

The anemia noted during his first admission suggests blood loss basis such as may be found in carcinomas of stomach or right colon. Fever and leukocytosis are not uncommon in the latter, and

*continued on next page*


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positive tests for blood in the stool noted. The terminal blood findings could be found with these tumors or others which now involve extensive areas of marrow.

It would not be too difficult to miss a carcinoma of the pancreas or adrenal at the time of the exploratory laparotomy; whereas, a lesion of the stomach would have been hard to overlook. His age group, the striking weight loss, the cerebral metastases, and constipation are all found with considerable frequency in pancreatic neoplasm. A primary lung carcinoma, suggested by his cough and smoking, should have an occult pulmonary lesion in the final chest X ray, as should metastasis from a kidney tumor. It would be unusual not to see clubbing of the fingers. A male breast cancer would not be missed on physical examination.

For these reasons, I believe that the primary carcinoma arose in the pancreas rather than in one of the other adjacent chest or abdominal organs.

*Campbell A. McNicol, M.D. Assistant Pathologist, Rhode Island Hospital.*

At autopsy the most striking feature on external examination of the body was a marked degree of emaciation. There was noted a patchy, brown discoloration of the periumbilical skin. No other areas of pigmentation of the skin of the body were noted. Examination of the thoracic cavity revealed a large hilar mass, which measured 10 x 8 x 9 cm., and was quite discrete from adjacent lung parenchyma on either side. This mass with trachea and bronchi attached weighed 670 grams. On section, it consisted of numerous confluent tumor nodules, some of which were necrotic and hemorrhagic. Examination of the lungs revealed thickening and induration of the right main stem bronchus and on cross section the bronchial wall appeared to be grossly involved by tumor. There was one small nodule of metastatic tumor in the liver and both adrenal glands were practically completely replaced by tumor. Examination of the brain revealed metastatic tumor nodules in the right frontal and left occipital lobe.

Histologic sections of the right main stem bronchus revealed a primary undifferentiated bronchiogenic carcinoma with invasion of the wall of the bronchus. The tumor in its metastases retained its undifferentiated structure.

The presence of the dermatologic condition of acanthosis nigricans is of interest in this case. This skin lesion is, in its so-called "malignant" form, almost invariably associated with internal cancer. While such carcinomas are usually of the adenocarcinoma variety, there have been cases reported of the finding of acanthosis nigricans in association with other types of tumor, including epidermoid carcinoma. The spiking temperature and reversal

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of the albumin-globulin ratio, noted clinically, are not easily explained. It is known, however, that in the presence of widespread tumor such clinical manifestations are not infrequent and must not necessarily be related to any specific type of tumor.

This case illustrates once again the cryptogenic nature of many internal cancers, a notable example of which is carcinoma of the lung.

[1]Curth, H. O.: Significance of Acanthosis Nigricans. Arch. Dermat. and Syph. 66:80, 1952

[2]Gassman, H. S.; Meadows, R., Jr.; and Baker, L. A.: Metastatic Tumors of the Heart. Am. Journal of Med. 19:357, 1955

## CHRONIC GRANULOMATOUS ILEITIS AND JEJUNITIS

*concluded from page* 700

[7]Ginzburg, L.; Colp, R.; Sussman, M. L.: Ileocolostomy with Exclusion. Trans. Amer. Surg. Assoc. 57:194, 1939

[8]Colp, R.; Dreiling, D. A.: Persistent or Recurrent Proximal Ileitis following Surgery. Arch. Surgery, 64:28, Jan. 1952

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## EXPERIENCES WITH INTRA-ARTICULAR USE OF HYDROCORTISONE ACETATE

*concluded from page* 691

[12]Butson, A. R. C.: "Intra-Articular Hydrocortisone in Orthopaedic Conditions." Canad. M.A.J. 70:51-54, Jan., 1954.

[13]"Hydrocortisone by Intra-Articular Injection." J.A.M.A. 154:434 (Jan. 30, 1954) (in foreign letters, Denmark)

[14]Coventry, M. D.: "The Use of Cortisone and Hydrocortisone (Compound F) in Treatment of the Painful Shoulder." Prac. Staff Mut., Mayo Clin. 29:58-62 (Jan. 27) 1954

[15]Zacco, M.; Bulashenko, H.; Hollander, J. L.; Dohan, F. C.; and Crittenden, F. C.: "Fate of Intra-Articularly Injected Cortisone and Hydrocortisone Acetates in Rheumatoid Arthritis." Summary of Communications, 8th International Congress of Rheumatic Diseases, Geneva (Aug. 25-28) 1953. Communication 37

[16]Fearnley, M. E.: "Comparative Effects of Intra-Articular E and F." Annual Report, Department of Rheumatic Disease, West London Hospital: 6-13, 1953

[17]Bornstein, J.; Silver, M.; Neustadt, D. H.; Berkowitz, S.; and Steinbrocker, O.: "Intra-Articular Hydrocortisone Acetate in Rheumatic Disorders." Geriatrics 9:205-211 (May) 1954

[18]Reynolds, F. C.; and Ramsey, R. H.: "The Use of Hydrocortisone (compound F) in Orthopedic Surgery." South. M. J. 47:209-215 (March, 1954)

[19]Hollander, Joseph L.: "Intra-Articular Hydrocortisone in the Treatment of Arthritis." 735-746 Annals of Internal Medicine 1953


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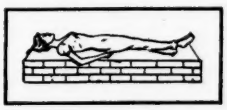

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## STORY OF THE RHODE ISLAND HOSPITAL HEART STATION

*continued from page 688*

Naturally the war interrupted a good deal of the hospital routine and subsequent to that for a considerable period no technician could be found who could operate the machine and develop the records satisfactorily, nor was there anyone who knew enough to be of any help in interpreting them. Electrocardiography had not yet been popularized and there were three good reasons for this: one was that a satisfactory portable instrument was slow in coming into use; secondly, the interpretation of the records required long training; and third, Rhode Island Hospital was not a teaching institution.

The original instrument remained in the hospital for five years. At the end of that time I had changed my office to 124 Waterman Street and had plenty of room to install an electrocardiograph, and needed one there. However, I did not like to take it away, for though at that time the staff still took very little interest in it, I felt that there should be one in the hospital. I had two fine elderly lady patients on Hope Street—Miss Esther Hinckley Baker, and her companion, Miss Elizabeth Dorrance Bugbee. When the latter died I asked Miss Baker if she would like to give an instrument to the hospital as a memorial. This she quite gladly agreed to do. That instrument, Miss Baker's gift, served for a number of years until the smaller and portable types were built.

The radical change in the attitude toward electrocardiography coincided with the manufacture of a strictly portable instrument. According to my records, I obtained one of these for the first time for my office in August 1927. It was in two parts, one containing the battery, from which it was operated, and the other the galvanometer. That made it possible to go to the home of a patient and get a record. In June eight years later, or 1935, I obtained an all-electric portable instrument, still in two parts, which could be operated from house current. This was made by the Cambridge Instrument Co. of New York and I think they were the first to manufacture a portable electrocardiograph to be operated from the 60-cycle house current, thereby eliminating the need for batteries. It was not particularly easy to handle as each of these cases weighed about 40 lbs. Not very long after that the so-called Simpli-Trol was manufactured by the same concern, all of the parts being assembled in one small case, weighing only about 30 lbs., and finally came another modification—the Simpli-Scribe, which is a direct-writer, producing a finished record which can be read as soon as it is taken, without having to wait for the developing process. In the meantime, other concerns were manufacturing various types of these instruments.

After Harry Clough left it was difficult to find any medical man who was willing to take over the technical work. I had several technicians, none of whom could get the knack of taking good records with the early complicated apparatus, but in 1924 Mrs. May E. Colwell took the job and no one has deserved greater credit for the success of the routine operation of the department than she. When she began some of the technical difficulties were almost heart-breaking and certainly most discouraging but her determination, intelligence and resourcefulness prevailed and kept the place efficient from the time she became connected with it. The work has never been light. She has had the details of carrying the place on under her direction continuously. It has sometimes been difficult to keep a full staff of helpers because of illness and matrimony but seldom has anyone resigned except for those reasons.

The lack of suitable quarters in which to carry on was a handicap for a long time. As before mentioned, the instrument was first set up in the X-ray room in the basement, but later was moved to a small room on the first floor across from the drug room. This, however, was entirely inadequate. Finally Dr. Peters retired as superintendent in 1934 and his apartment in the main building was

*continued on page 710*

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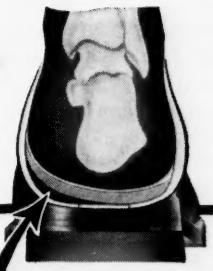

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## STORY OF THE RHODE ISLAND HOSPITAL HEART STATION

*continued from page 708*

vacated and made available for electrocardiography and other heart studies. These excellent quarters, henceforth known as the "Heart Station" were remodeled to suit that purpose. One large room was cut up so that it was quite satisfactory for the technical work and fluoroscopy and another was used for a conference room.

Mrs. Daniel Beckwith and her family had long been patients of mine and were much interested in the hospital. She heard about some of our financial difficulties and offered to make some contribution if it would help. She first of all volunteered $1000. and from time to time later contributed several thousand more, out of which new equipment was acquired which was much needed and which could be satisfactorily used in our new quarters, and it was these available funds which prompted the request to have a resident in the Heart Station.

When I retired from active duty on the medical staff, it was voted in the staff meeting that I be asked to continue carrying on the electrocardiographic work. Soon after, I suggested to the staff that there be a paid resident, whose duties would be entirely devoted to that department, and I wrote the following letter:

Feb. 22, 1934

My dear Westcott:

As I have already told you, I have in mind a plan for increasing the usefulness of the Cardiac Department.

The quarters for the electrocardiographic work, as you know, are quite inadequate for the work we have lately had to do. The hospital, I understand, is willing to provide a more suitable place. If it should meet with the approval of the Executive Committee I should like to suggest that when suitable quarters are available, there be installed a fluoroscope with orthodiagraph attachment, and that there be appointed a resident whose time would be devoted to cardiac work. The purpose would be twofold: first, to make the department of more value to the medical service and the hospital in general, and secondly to give the holder of the appointment an opportunity to carry on a more intensive study of heart disease.

There is at the moment cash enough available to supply the equipment and pay such a resident a small salary for perhaps three or four years. It is quite possible that a permanent fund might be obtained for this purpose.

My ideas in general as to the work of a resident would be as follows: first of all he should give especial attention to the fluoroscopy and orthodiagraph work, and plan that work so that members of the Out Patient and Hospital staff who wished to do so could be present when the routine fluoroscopy was being done; that he should be available for emergency electrocardiographic work; that he should help in the Out Patient Clinic; that he should have opportunity to study the house patients, and carry on any research work on these patients which would meet the approval of the staff.

You have already told me of your approval of the suggestion, and I would be glad if you would bring the matter before the Executive Committee.

Very sincerely yours,

(Signed) FRANK T. FULTON, M.D.

P.S. It might develop that it would be wise to allow such a resident the privilege of spending one day a week in some Boston clinic.

F. T. F.

This was approved quite promptly and Dr. Frank B. Cutts, who had just finished his internship at the Massachusetts General in Boston and was planning to come to Providence to practice, was offered and accepted the position for a year.

The expansion of our facilities quite promptly led to a weekly conference where the staff could meet and discuss some of the cardiac problems and cardiac cases. This became popular at once but was interfered with during World War II as the staff was much depleted. After the men returned, however, these conferences were resumed and well attended, more particularly by the residents and the younger men. Now that the interns and residents are so many, the facilities of the present meeting place are fairly well taxed.

The Heart Station was never intended to be strictly a heart clinic. It was originated for doing the technical electrocardiographic work, and not for the clinical care of patients. Those admitted to the hospital service still remained on the hospital medical services and those from the Out Patient were sent back to the Out Patient Clinic for advice. The department would have lost much of its value had it been made a special clinic and taken away from the medical service. It was especially stressed when the resident came, that the members of the Heart Station should not

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initiate any of the treatment of cardiac patients but should supply to the medical staff any information that was recognized as being useful and a helpful guide. It was understood, however, that the resident should have opportunity at all times for observation and study of the cardiac patients on the wards.

The work of the department has grown tremendously. When we left our cramped quarters on the main floor of the hospital, the monthly average of records called for was 115, or a total for the year 1933 of 1382. In 1954 the average per month was 422, with a total for the year of 5071, keeping three full-time and two part-time girls busy taking care of the technical work. Now, an electrocardiogram is one of the first things the hospital staff asks for and insists upon. The records are interpreted by some member of the staff who has been working there long enough so that his opinion has a value. It has been for years the established routine to deliver a written opinion to the ward where the patient is located, on the following day after a record is taken. The only thing that interferes with this practice is insufficient technical help. If it is an emergency, a verbal opinion may be had at once. So much has been written in connection with electrocardiographic work that it is rather difficult for one person to keep informed about it all. There is one danger for the younger men, the students, interns and residents; that is that they may tend to emphasize too much the electrocardiographic findings. There is much else beside that which can be found out in connection with the diagnosis and treatment of heart disease. The correlation with the autopsy findings, which has been a part of the Heart Station studies for a number of years, is very valuable.

During the early years, as has been previously said, there wasn't a great deal of interest among the medical men so far as taking an active part in the work was concerned. Dr. Cecil C. Dustin and Dr. Henry L. C. Weyler were about the first to become interested and they were eventually very helpful in interpreting the records.

Since getting the Heart Station established, we have always had a resident, a young physician who has completed his internship. This residency soon was in demand and gradually there was an increasing number of applicants every year from all parts of the country and also abroad, as far away as South America, Iraq and India. Naturally the number fell off somewhat during the war but one year just after the war there were twenty-two inquiries regarding it. It has been very gratifying that we have had so many well qualified men make application for this position in spite of the fact that it is not associated with a teaching institution.

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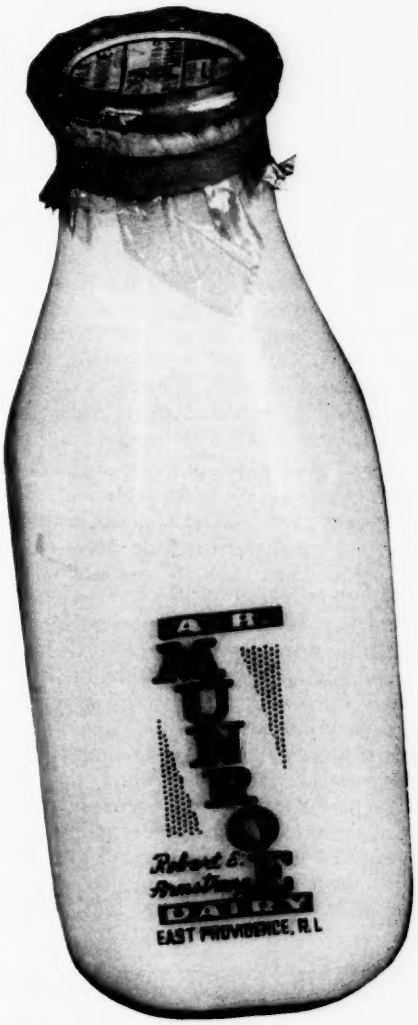


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It has seemed worthwhile to keep in touch with the men who have served as cardiac residents, as to where they are, what positions or privileges they may have, and how many of them are making heart disease a major study. Already many of these details are recorded and it has been suggested that as a matter of interest this information be kept in the Heart Station and revised periodically. The data collected up to the present gives one the impression that their experience in the Heart Station has helped them to make good contacts where they have ultimately located.

Dr. Cutts has remained continuously on the staff of the Cardiac Department since his residency and on his return from service in World War II was appointed director.

There are now hanging in the Heart Station, signed and framed, photographs of the following distinguished men in the field of cardiology: Sir Thomas Lewis, Henry A. Christian, Alfred E. Cohn, Lewis A. Conner, Elliott C. Cutler, George Dock, James B. Herrick, Samuel A. Levine, Paul D. White, and Frank N. Wilson.

It would be appropriate to say something about the men who had the most to do with the early development of the use of the electrocardiograph. In my own mind there is little question but that Sir Thomas Lewis was the outstanding man in Europe in this regard. His book, "The Mechanism of the Heart Beat," which appeared in 1911 and to which I referred in the beginning, was the result of a very elaborate study with the use of that instrument. However, credit must be given to Sir James Mackenzie for his part in these early studies. Much of his work was done in connection with a country practice. So far as I know, the polygraph was the product of his own ingenuity and his use of it added greatly to the understanding of heart irregularities. But the electrocardiograph showed all that the polygraph did, and showed it much better, besides giving ultimately, far more information.

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Sir Thomas disliked very much being involved in consultation work. His conferences he liked to have with the attending physician and the patient. The discussions and conferences with the family and friends which were apt to follow, he could not well tolerate. He was very jealous of his time which he preferred to use in finding out methods and establishing results. He could stop long enough in his teaching to give a lecture, which was always extraordinarily informative, but he was chiefly interested in exploring the unknown; in other words, he was really a research man. I was rather surprised at the time, that there were so few young men under his tutelage during the first summer I was with him. There were but six of us—two were from Johns Hopkins, a third, a particular friend of mine from Syracuse. I don't recall what connections the others had. Of course this was only about a year after the first edition of his book was published and the subject had not been much publicized. He had a brilliant mind, was very thorough, went to the bottom of his subject, was an extraordinarily clear thinker and, as noted previously, had great facility of expression, which is not always true of an investigator.

Three of the outstanding men in this country who contributed greatly to the early knowledge of cardiovascular diseases have been Dr. Frank N. Wilson, Dr. Samuel A. Levine and Dr. Paul D. White. Dr. Wilson and Dr. Levine were about the same age and about three years younger than Dr. White. They all three began to give that subject their special attention at about the same time, Dr. Levine at the Brigham, Dr. White at the Massachusetts General and Dr. Wilson at the University of Michigan, each of these being first-class institutions and located in about the best possible kind of environment. These men have all attained national and international distinction and they have all been among my best friends. Dr. White has written a great deal and in 1931 published what I believe to be the first comprehensive book on heart disease in this country since electrocardiography became well established. I became acquainted with Dr. Levine during my frequent visits to the Peter Bent Brigham Hospital, which came about because of my early acquaintance and friendship with Dr. Christian. Dr. Levine had the electrocardiograph at the Brigham Hopital in operation before ours arrived at the Rhode Island and he was of distinct help in getting us over some difficulties. Recently he has been paid a wonderful tribute. Mr. Charles E. Merrill of New York City gave $500,000 to the Harvard Medical School, as a permanent endowment for the "Samuel A. Levine Professorship of Medicine" to carry on research in cardiovascular disease.

Dr. Wilson, I think without doubt, did more

*concluded on page 714*

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## STORY OF THE RHODE ISLAND HOSPITAL HEART STATION

*concluded from page 712*

scientific research in connection with the electrocardiograph than either of the others or than anyone else in this country during the period of his activity. Most of his work was done at Ann Arbor, Michigan, altho he was for four years, from 1916 to 1920 at Washington University in St. Louis. After that he returned to the University of Michigan. He was most prominent on account of his research, much of that being conducted by experiments on dogs. As a result of this he was largely responsible for increasing the number of leads which are used in taking an electrocardiogram. For some time only the three conventional leads were used; now, usually at least twelve are taken. In this connection Dr. Levine contributes the following comment: "It is of interest that Wilson started his intensive study of the ventricular complex (Q-R-S-T waves) at the time that Lewis really gave up his interest in electrocardiography. In the early nineteen twenties Lewis turned his attention to the peripheral circulation, the capillaries, and to the mechanism of pain, thinking there was little more to be learned from the galvanometer. Despite this Wilson succeeded in clarifying the significance of the ventricular complex and laid the foundation of our present knowledge of the electrocardiographic diagnosis of myocardial infarction, ventricular hypertrophy and bundle branch block." I have always regretted that I didn't go to Ann Arbor to visit and study with Dr. Wilson for a while. Unfortunately, he died at the age of 62, too early to have gotten the greatest satisfaction out of his work. One might add the same thing about Sir Thomas Lewis, who died when he was 64, while still in his prime.

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April 24-26. Connecticut State Medical Society, at Hamden, Conn. (High School)

May 22-24. Massachusetts Medical Society, at Boston (Statler Hotel)

June 24-26. Maine Medical Association, at Rockland (Samoset House)

Sept. 27-29. New Hampshire-Vermont Societies, at Portsmouth, N. H. (Wentworth-by-the-Sea)

Oct. 30-Nov. 1. New England Postgraduate Assembly, at Boston (Statler Hotel)

## NATIONAL

Feb. 13-16. American College of Surgeons (Sect. Meeting), at Philadelphia, Pa. (Bellevue-Stratford)

Mar. 19-22. American Academy of General Practice, at Washington, D. C. (Armory)

April 16-20. American College of Physicians, at Los Angeles, Calif. (Shrine Auditorium)

April 16-18. American Academy of Pediatrics (Spring Meeting), at Houston, Texas (Auditorium)

April 23-26. Industrial Medical Association, at Philadelphia, Pa. (Convention Hall)

April 30-May 4. American Psychiatric Association, at Chicago, Ill. (Morrison Hotel)

May 6-8. American Society of Clinical Investigation, at Atlantic City, N. J. (Steel Pier)

May 28-31. American Urological Association, at Boston, Mass. (Statler Hotel)

June 9-11. AMERICAN MEDICAL ASSOCIATION, at Chicago, Ill. (Navy Pier)

Sept. 2-8. International Society of Hematology, at Boston, Mass. (Statler Hotel)

Sept. 9-12. International College of Surgeons, at Chicago, Ill. (Palmer House)

Oct. 7-13. American College of Surgeons (Clinical Cong.), at San Francisco, Calif. (Civic Auditorium)

Oct. 8-11. American Academy of Pediatrics, at New York, N. Y. (Statler Hotel)

Oct. 8-12. American Society of Anesthesiologists, at Kansas City, Mo. (Auditorium)

Oct. 27-31. American Heart Association, at Cincinnati, Ohio. (Netherland-Plaza Hotel)

Nov. 12-16. American Public Health Association, at Atlantic City, N. J. (Auditorium)

Nov. 27-31. AMERICAN MEDICAL ASSOCIATION (Clinical Session), at Seattle, Wash. (Civic Auditorium)

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# ON THE MEDICAL LIBRARY BOOKSHELVES

*Five new titles have been added to the Davenport Collection and are available for circulation:*

Enzo Girone—Io E I Pazzi. Casa Editrice Ceschina, Milano, 1953. Gift of Dr. Ronchese.

400 Years of a Doctor's Life. Collected and Arranged by George Rosen and Beate Caspari-Rosen. Schuman, N.Y., 1947. Gift of Dr. Ronchese.

Ugo Piazza—Oggi non visito . . . Edizioni Minerva Medica, Torino, 1955. Gift of Dr. Ronchese.

Piero Orlandini—Il Medico Nomade. Garzanti, Italy, 1950. Gift of Dr. Ronchese.

Henry W. Wells—Poet and Psychiatrist. A Critical Portrait of Merrill Moore, M.D. Twayne Publishers, N.Y., 1955.

*Recent Day Fund purchases are:*

Paul B. Beeson & others, editors—The Year Book of Medicine. 1955-1956 Series. The Year Book Publishers, Inc., Chic., 1955.

Collected Papers of the Mayo Clinic and Mayo Foundation. Vol. XLVI, 1954. W. B. Saunders Company, Phil., 1955.

William Dock & I. Snapper, editors—Advances in Internal Medicine. Vol. VII. The Year Book Publishers, Inc., Chic., 1955.

Gilbert S. Gordan, editor—The Year Book of Endocrinology. 1954-1955 Series. The Year Book Publishers, Inc., Chic., 1955.

Lewis M. Hurxthal. In Cooperation with A. Seymour Parker & Hirsh Sulkowitch—Practical Endocrinology. Landsberger Medical Books, Inc., McGraw-Hill, N.Y., 1955.

S. S. Lichtman — Diseases of the Liver, Gallbladder and Bile Ducts. 2 vols. 3rd ed. Lea & Febiger, Phil., 1953.

Grace E. Barstow Murphy—Your Deafness is not You. Harper & Brothers, N.Y., 1954.

John F. Oliven—Sexual Hygiene and Pathology. A Manual for the Physician. J. B. Lippincott Co., Phil., 1955.

Edith L. Potter—Pathology of the Fetus and the Newborn. The Year Book Publishers, Inc., Chic., 1953.

E. A. Spiegel, editor—Progress in Neurology and Psychiatry. An Annual Review. Vol. X. Grune & Stratton, N.Y., 1955.

John E. Sutton—Minor Surgery. Landsberger Medical Books, Inc., McGraw-Hill, N.Y., 1955.

Paul Titus—The Management of Obstetric Difficulties. Revised by J. Robert Willson. 5th ed. The C. V. Mosby Company, St.L., 1955.

Franklin H. Top & others—Communicable Diseases. 3rd ed. The C. V. Mosby Company, St.L., 1955.

William B. Wartman, editor—The Year Book of Pathology and Clinical Pathology. The Year Book Publishers, Inc., Chic., 1955.

William Firth Wells—Airborne Contagion and Air Hygiene. An Ecological Study of Droplet Infections. Harvard University Press, Cambridge, 1955.

*Review volumes from the Rhode Island Medical Journal were:*

Ciba Collection of Medical Illustrations. Vol. 2. A Compilation of Paintings on the Normal and Pathologic Anatomy of the Reproductive System Prepared by Frank H. Netter, M.D. Edited by Ernst Oppenheimer, M.D. Ciba Pharmaceutical Products, Inc., Summit, N.J., 1955.

Otto Deutschberger—Fluoroscopy in Diagnostic Roentgenology. W. B. Saunders Company, Phil., 1955.

John F. Fulton & others, editors—A Textbook of Physiology. 17th ed. W. B. Saunders Company, Phil., 1955.

Benjamin Harrow—Casimir Funk. Pioneer in Vitamins and Hormones. Dodd, Mead & Company, N.Y., 1955.

A. McGehee Harvey & James Bordley III—Differential Diagnosis. The Interpretation of Clinical Evidence. W. B. Saunders Company, Phil., 1955.

Conrad R. Lam, editor—Cardiovascular Surgery. Studies in Physiology, Diagnosis and Techniques. Proceedings of the Symposium held at Henry Ford Hospital, Detroit, Michigan, March, 1955. W. B. Saunders Company, Phil., 1955.

Herbert Lawrence — The Care of Your Skin. Little, Brown and Company, Bost., 1955.

Alton Ochsner & Michael E. DeBakey, editors—Christopher's Minor Surgery. 7th ed. W. B. Saunders Company, Phil., 1955.

Sheldon C. Reed—Counseling in Medical Genetics. W. B. Saunders Company, Phil., 1955.

A. A. Roback — Present-day Psychology. An Original Survey of Departments, Branches, Methods, and Phases, including Clinical and Dynamic

Psychology. Philosophical Library, N.Y., 1955.

Richard T. Shackelford—Bickham-Callander Surgery of the Alimentary Tract. 3 vols. W. B. Saunders Company, Phil., 1955.

Henry K. Silver, C. Henry Kempe & Henry B. Bruyn—Handbook of Pediatrics. Lange Medical Publications, Los Altos, Calif., 1955.

Robert H. Williams, editor—Textbook of Endocrinology. 2nd ed. W. B. Saunders Company, Phil., 1955.

Edward T. Yorke—Salt and the Heart. Drapkin Books, Linden, N.J., 1953.

*Fellows of the Society have given the following items to the Library:*

From *Dr. P. Batchelder*—10 volumes of The X-ray Technician.

From *Dr. P. P. Chase*—Ciba Foundation Colloquia on Endocrinology. Vol. VIII. The Human Adrenal Cortex. Little, Brown and Company, Bost., 1955.

From *Dr. G. W. Davis*—151 journals.

From *Dr. R. Hammond*—medical journals.

From *Dr. H. A. Lawson*—Thesaurus Sanitatis . . . by Johann Jacob Bräuner. Franckfurt, 1713. 2nd ed.

From *Dr. H. G. Partridge*—Medical Practice in Curing Fevers: . . . by Theophilus Lobb. Lond. 1735. This volume was owned by Amos Throop, the first President of the Rhode Island Medical Society, and has his signature.

Transactions of the New England Obstetrical and Gynecological Society. Vol. VIII. 1954.

From *Dr. C. Potter*—medical journals.

From *Dr. F. Ronchese*—Two Histories of Medicine of the XVth Century (On Medicine and Physicians by Giovanni Tortelli and On the Antiquity of Medicine by Gian Giacomo Bartolotti) Edited and Translated by Dorothy M. Schullian and Luigi Belloni. Milano, 1954.

Massachusetts General Hospital Memorial and Historical Volume. Together with the Proceedings of the Centennial of the Opening of the Hospital. Bost., 1921.

Historical Sketch of the Rhode Island Hospital Training School for Nurses, 1882-1932. Prov., (1932).

More of My Life by Andrea Majocchi. Translated by Wallace Brockway. Knight Publishers, N.Y., 1938.

Il Sangue e Gli Organi Emolinfopoietici Nell'Infezione Sifilitica by Gian Battista Cottini. Editoria Liviana, 1947.

Il Problema del Cancro Visto dal Medico Practico. Fratelli Lega, Faenza, 1955.

*Other gifts were:*

From *Martha B. Bates, M.D.*—74 volumes.

From *Prof. Robert T. Beyer*—medical journals.

From *Donald C. Gates, M.D.*—medical journals.

Gift of the Author: Martin Ekblad — Induced Abortion on Psychiatric Grounds. A Follow-up Study of 479 Women. Copenhagen, 1955.

Gift of the Health Library, State Department of Health: medical journals.

Gift of Peters House Library, Rhode Island Hospital: medical journals.

Gift of the American Medical Association: Louis H. Bauer—Private Enterprise or Government in Medicine. Springfield, Ill., 1948.

New and Nonofficial Remedies Accepted by the Council on Pharmacy and Chemistry. J. B. Lippincott Company, Phil., 1955.

A Planning Guide for Establishing Medical Practice Units. Published through a Grant made by Sears-Roebuck Foundation. Chic., 1955.

Tenth National Conference on Rural Health. Milwaukee, 1955.

Gift of the American Medical Education Foundation: Annual Report 1954. Chic., 1955.

Gift of the American Society of Anesthesiologists, Inc.: Anesthesiology Handbook. Chic., 1955.

Gift of the American Urological Association: Transactions of the Western Section, vol. 22. 1955.

Gift of the Association of American Physicians: Transactions, Sixty-eighth session, vol. LXVIII, Phil., 1955.

Gift of the Association of American Soap and Glycerine Producers, Inc.: Louis Schwartz—The Prevention of Occupational Skin Diseases, N.Y., 1955.

Gift of the British Government: Report of the Medical Research Council for the Year 1953-1954. Lond., 1955.

Gift of the Committee on Conservation of Hearing, American Academy of Ophthalmology and Otolaryngology: Quarterly report no. 6, April 1-June 30, 1955.

Gift of the Connecticut State Department of Health: 105th Registration Report, 1952. Hartford, 1954.

Gift of the Harvard School of Public Health: Annual Report of the Dean, 1954. Cambridge, 1955.

Gift of the Institute of Life Insurance: Life Insurance Fact Book, N.Y., 1955.

Gift of the Life Insurance Association of America: Proceedings of the Forty-eighth Annual Meeting. N.Y., 1954.

Gift of the M&R Laboratories: Reports of the M&R Pediatric Research Conferences. 13th — Adrenal Function in Infants and Children. 15th — Respiratory Problems in the Premature Infant. 1955.

*concluded on page* 720

# BOOK REVIEWS

*DIFFERENTIAL DIAGNOSIS.* The Interpretation of Clinical Evidence by A. McGehee Harvey, M.D. and James Bordley III, M.D. W. B. Saunders Co., Phil., 1955. $11.00

This is a unique publication, being the first one in this reviewer's experience, which has presented the problem of differential diagnosis in the form essentially of clinical pathological conferences. This type of presentation has certainly become familiar to most everyone through the medium of the Massachusetts General Hospital case records as published in the NEW ENGLAND JOURNAL OF MEDICINE, and we all agree that this is an excellent way to offer basic differential diagnosis. This method has its limitations in that certainly many problems do not necessarily result in death or surgery, so that absolute pathological confirmation is not always available, and this would seem to limit this publication in its usefulness. There are several other, perhaps minor criticisms that may be offered. The whole first chapter is devoted to aortic insufficiency and although other valvular cardiac defects are discussed, one wonders why this single condition is isolated for such extensive discussion. Most of the usual, and some of the unusual, medical disorders are covered in the book but it seems strange to this reviewer that diseases of the blood as such are not covered and very little attention is given to disorders of the central nervous system. Only meningitis, as an infectious disease is presented, although in the discussion other diseases are covered.

Generally speaking, the material is presented well and the discussions following each case outline are excellent. Pathological findings are well correlated and it is very evident that a lot of very painstaking work has gone into the preparation of this volume. An outstanding aspect of the volume is a section devoted to unknown cases for study in which the reader is given an opportunity to arrive at his own diagnosis and then by referring to a subsequent section can compare his reasonings with those of the authors. There is also a section on laboratory values of clinical importance and in another section there is a special index of symptoms, signs, and laboratory findings. This in itself makes the book very valuable, providing an alphabetical reference to specific symptoms and syndromes.

This book should be a welcome addition to the library of those interested in internal medicine and its many and varied problems of diagnosis, but this reviewer does not feel that this volume can be relied upon for a complete study in differential diagnosis.

JOSEPH G. MCWILLIAMS, M.D.

*TEXTBOOK OF ENDOCRINOLOGY.* Edited by Robert H. Williams, M.D. W. B. Saunders Co., Phil., 1955. $13.00

This second edition of Doctor Williams' textbook is a basic work on endocrinology. It contains all the valuable, timely data necessary to the study of any problem relating to the endocrine glands, and manages withal to be concise and clear in the treatment of a vast, complicated field of medicine.

In the first chapter which deals with general principles of the physiology of the endocrines, it delineates the phylogenetic aspects of the endocrines, their interrelationships with one another and with the nervous system, the general chemical nature of hormones, their manufacture, storage transportation, activation and inactivation, their mechanism of action and their excretion.

Thereafter, from the pituitary on, a chapter is devoted to each gland, its anatomy, physiology, chemistry and the diseases inherent to each one. Thus, a chapter follows on the thyroid, the adrenals, the testes, the ovaries, the pancreas, the parathyroids. Five other chapters follow dealing with: the influence of the endocrine glands upon growth and development, neuroendocrinology, obesity, laboratory diagnostic and assay procedures, and diagnoses and treatment of endocrinopathies with hormone preparations.

Other well-known contributors besides Doctor Williams represent authorities in their subject from various medical centers across the country. They are: Doctors William Daughaday, St. Louis; Peter Forsham, San Francisco; Harry B. Friedgood, Toledo; John Eager Howard, Baltimore; Edward C. Reifenstein, New York; William Wallace Scott, Baltimore; George V. Smith, Brookline; George W. Thorn, Boston; Lawson Wilkins, Baltimore.

The book is splendidly illustrated with photographs, photomicrographs, lucid graphic charts and contains appended to each chapter a complete bibliography.

*concluded on page 720*

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## BOOK REVIEWS

*concluded from page 718*

As Doctor Williams points out in his preface, "There are few major diseases that do not influence endocrine function, and vice versa. Therefore, knowledge of endocrinology is important in every branch of medicine." It must then follow as the night, the day, that this book is of outstanding value to all physicians. Advances in endocrinology have kaleidoscoped so rapidly in recent years, that it is good, indeed comforting to have at hand as complete a source of information on the subject as Doctor Williams' textbook.

JEANNETTE E. VIDAL, M.D.

*OFFICE PROCEDURES* by Paul Williamson, M.D. W. B. Saunders Company. Phil., 1955. $12.50

This is a very well organized and well illustrated book, written in a chatty, conversational manner. It is not too large and is bound in such a way that when open it lies flat on the table for easy use.

It is meant for the general practitioner and I mean *general*. It consists of fifteen sections: Ear, Nose and Throat; Eye; Musculoskeletal System; Gynecology; Obstetrics; Urology; Proctology; Pediatrics; Minor Surgery; Internal Medicine; Psychological Testing; Anesthesia; Physiotherapy; The Small Laboratory; and Roentgenography.

The practitioner who will attempt all the procedures listed should be chock-full of self confidence, have a strong leaning towards surgery and live in an area where there is not such a plethora of specialists as exists in the state of Rhode Island. He should also have a large, well-equipped office with office help such as an X-ray and laboratory technician and a nurse able to do physiotherapy.

The book would be of great help to a country practitioner as there are clearly described and illustrated "tricks of the trade" which are not taught in medical school or in most internships and only learned from others by word of mouth or discovered by chance or natural born ingenuity.

It tells you how to do things to and with the patient with least discomfort and best results, such as inserting a vaginal speculum or "treating the obstetrical patient as if she were queen for a day instead of an outsider who happened to butt in on an obstetrical procedure." Minor surgery *plus* is well covered.

I heartily recommend this book to all general practitioners and, if I may be so rash, would say that some specialists might also pick up a few points by reading the sections devoted to their particular departments.

AMY E. RUSSELL, M.D.

## ON THE MEDICAL LIBRARY BOOKSHELVES

*concluded from page 717*

Gift of the Metropolitan Life Insurance Company: pamphlets.

Gift of the Muscular Dystrophy Associations of America, Inc.: Proceedings of the third Medical Conference, N.Y., 1954.

Gift of the National Association of Medical-Dental Bureaus: Proceedings of the Sixteenth Annual Convention, Kansas City, Mo., 1954.

Gift of the Pan American Sanitary Bureau: Annual Report of the Director, 1954. Wash., 1955.

Gift of the Rockefeller Foundation: The President's Review from the Rockefeller Foundation Annual Report 1954. N.Y., 1955.

Gift of the Rockefeller Institute for Medical Research: Studies, vol. 150. N.Y., 1955.

Gift of the U.S. Government: Cardiovascular Disease. Data on Mortality, Prevalence, Control Activities. Wash., 1955.

W. F. von Oettingen—The Halogenated, Aliphatic, Olefinic, Cyclic, Aromatic, and Aliphatic-aromatic Hydrocarbons including the Halogenated Insecticides, Their Toxicity and Potential Dangers. National Institute of Health. Wash., 1955.

Public Health Service Technical Report on Salk Poliomyelitis Vaccine, June 1955. U. S. Dept. Health, Education, and Welfare. Wash., 1955.

Transactions of the 14th Conference on the Chemotherapy of Tuberculosis held on Feb. 7-10, 1955, at Fulton County Medical Society, Atlanta, Ga. Veterans Administration, Army and Navy. Wash., 1955.

Veterans Administration. Technical Bulletins Series 10. Vol. VII, 1954. Wash., 1955.

*Through our special exchange arrangement* with the Universitetsbiblioteket, Lund, Sweden, we have received the following:

Sten Brattström—Postoperative Pulmonary Ventilation with Reference to Postoperative Pulmonary Complications. Lund, 1954.

Olof Forssman—Myocardial Infarction and Adrenal Function. Lund, 1954.

Lars Martenson—A Study in Spinal Tuberculosis in Childhood. Copenhagen, 1954.

Inga Marie Nilsson—Demonstration of a Heparin-like Anticoagulant in Normal Blood. Lund, 1954.

Anders Wenckert—The Activation of Prothrombin. Investigation of the Mode of Action of Human Brain Thromboplastin and of Russell Viper Venom. Stockholm, 1955.

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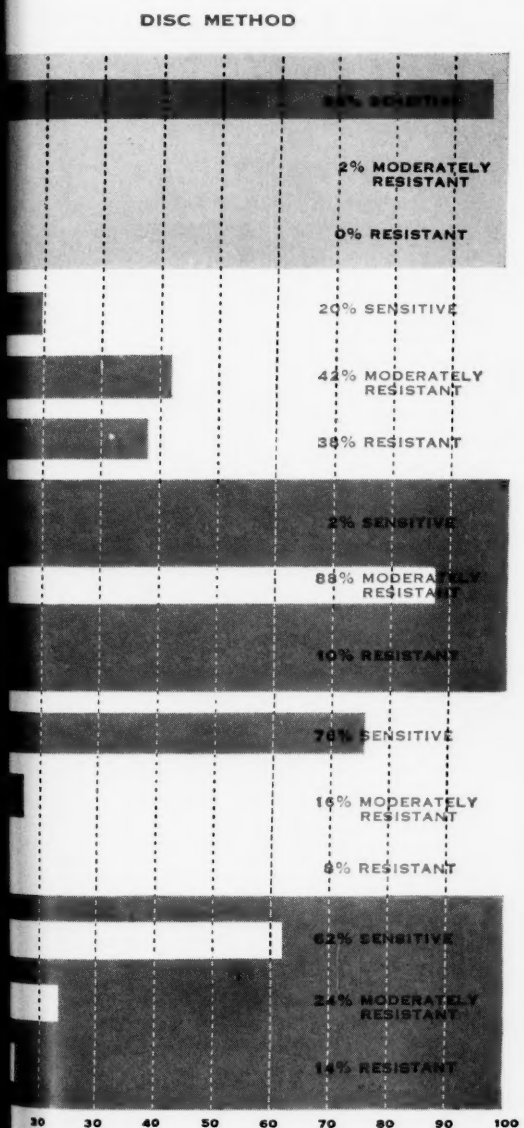


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**References:** (1) Spink, W. W.: *Arch. Int. Med.* 94:167, 1954. (2) Finland, M.: *J.A.M.A.* 158:188, 1955. (3) Tebrock, H. E., & Young, W. N.: *New York J. Med.* 55:1159, 1955. (4) LeMaistre, C.: *M. Clin. North America* 39:899, 1955. (5) Kagan, B. M.: *J.M.A. Georgia* 44:210, 1955. (6) Branch, A.; Starkey, D. H.; Rodgers, K. C., & Power, E. E., *in* Welch, H., & Marti-Ibañez, F: Antibiotics Annual, 1954-1955, New York, Medical Encyclopedia, Inc., 1955, p. 1125. (7) Kutscher, A. H.; Seguin, L.; Lewis, S.; Piro, J. D.; Zegarelli, E. V.; Rankow, R., & Segall, R.: *Antibiotics & Chemother.* 4:1023, 1954. (8) Weil, A. J., & Stempel, B.: *Antibiotic Med.* 1:319, 1955. (9) Jones, C. P.; Carter, B.; Thomas, W. L., & Creadick, R. N.: *Obst. & Gynec.* 5:365, 1955.

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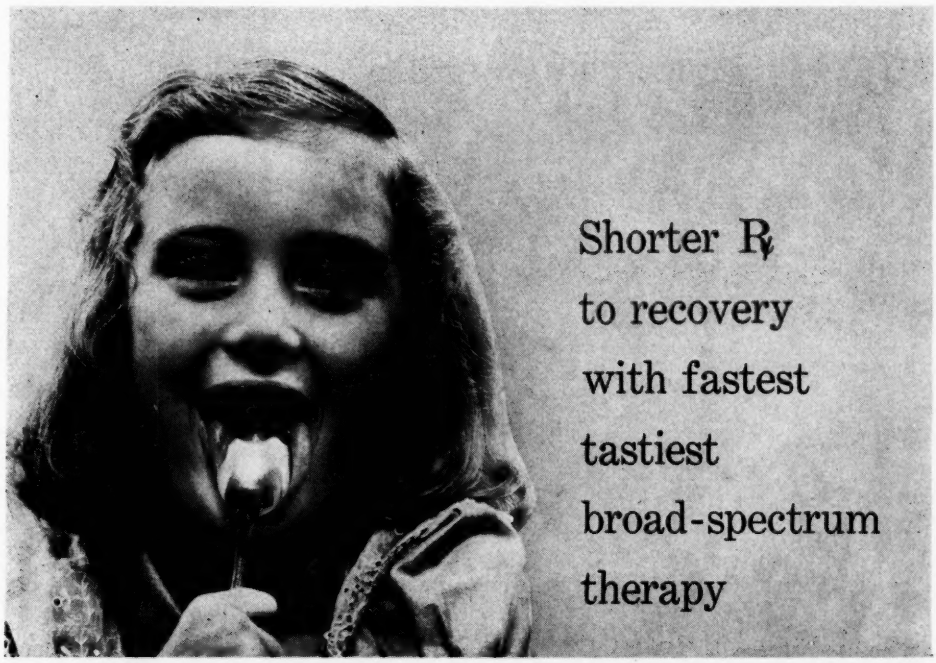


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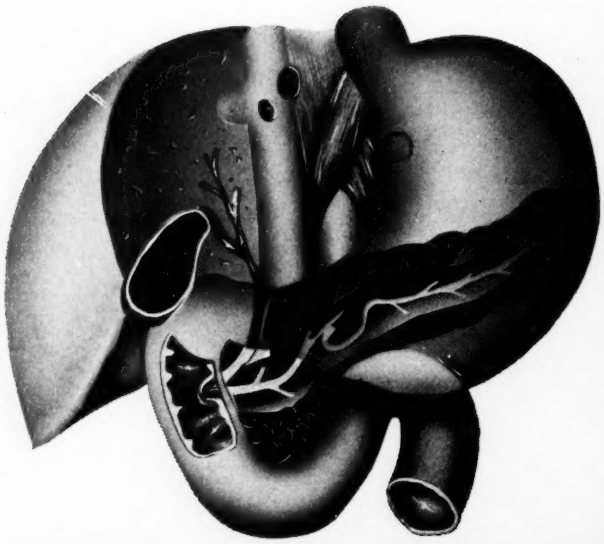

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*King, J. C.: Am. J. Digest. Dis. *22*:102, April, 1955.

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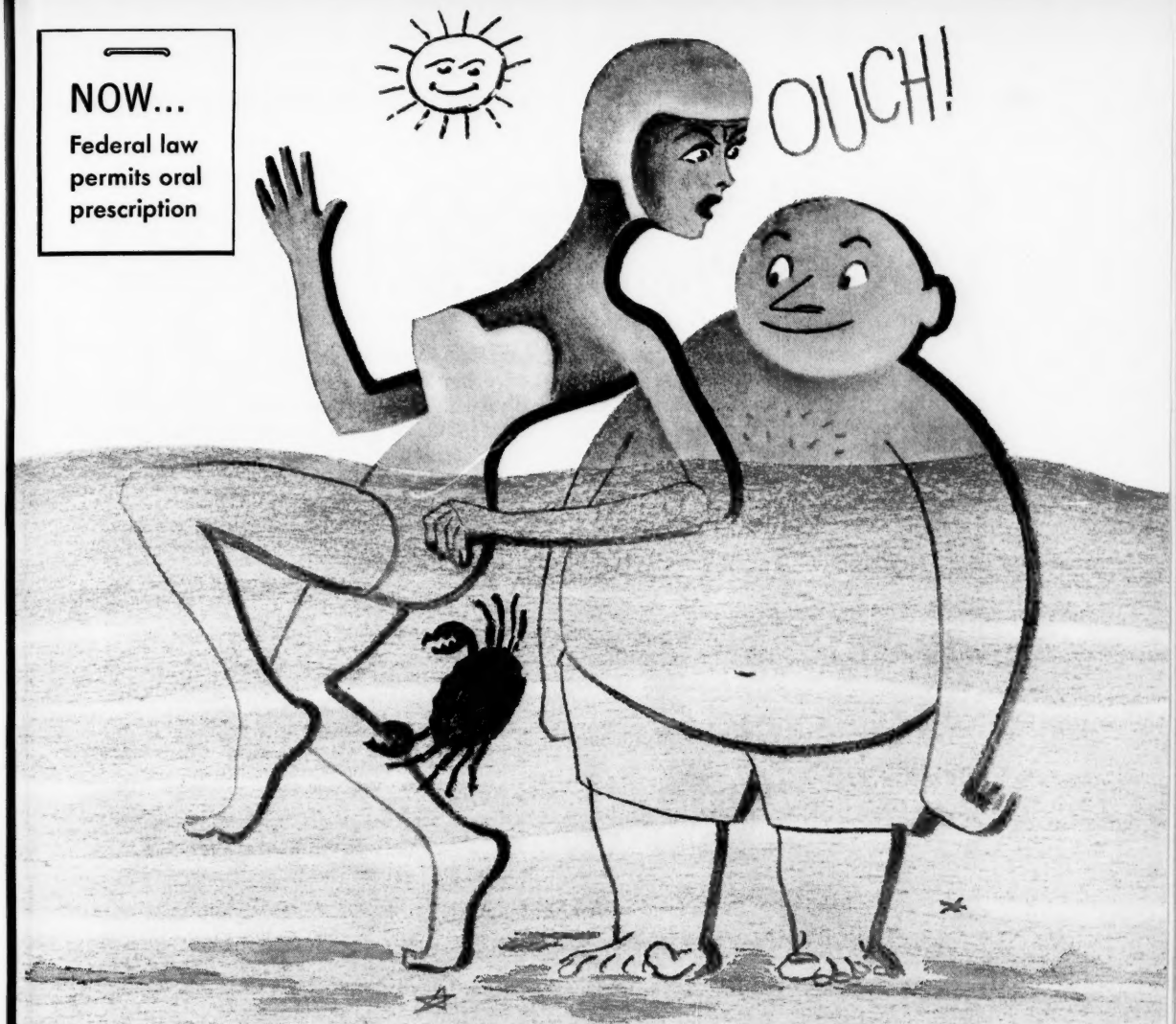


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1. Piper, C. E., and Nickles, F. W.: Indust. Med. 23:510, 1954.

# *Pork in the Dietary During Pregnancy and Lactation*

CERTAIN NUTRIENTS are required in greater than normal amounts during pregnancy and lactation. Pork meat, though its cost is low, supplies a remarkably high quantity of the nutrients required by the maternal organism in these periods of physiologic need.

During pregnancy the maternal organism may store 3.3 to 5.5 pounds of protein in excess of that contributed to fetal tissue.[1] Enough iron is stored to approximate the entire amount secreted in the milk during 9 months of lactation, in addition to the iron supplied to the fetus.[2]

The body of the newborn infant contains approximately 500 grams of protein, 14 grams of phosphorus, and 0.5 gram of iron.[3] It is estimated that the lactating mother, through breast milk, provides a 26 week old infant with about 12 grams of protein, 76 grams of lactose, and 1.2 mg. of iron each day.[2]

Pork meat, an excellent source of high quality protein, thiamine, niacin, and iron,[4] also supplies valuable amounts of other B vitamins, as well as phosphorus, magnesium, and potassium. The thiamine content of pork is particularly important, since there are few more valuable food sources of this vitamin.[4]

Pork and pork sausage—economical, good tasting—are valuable components of the dietary of the pregnant or lactating woman. Just how valuable, is shown in the table below.

1. Toverud, K.U.; Stearns, G., and Macy, I.G.: Maternal Nutrition and Child Health, an Interpretative Review, Washington, D.C., National Research Council, Bull. 123, 1950.

2. McLester, J.S., and Darby, W.J.: Nutrition and Diet in Health and Disease, ed. 6, Philadelphia, W.B. Saunders Company, 1952, p. 241.

3. Marrack, J.R.: Food and Planning, London, Victor Gollancz, Ltd., 1943, p. 67.

4. Wolgamot, I.H., and Fincher, L.J.: Pork Facts for Consumer Education, Washington, D.C., United States Department of Agriculture, AIB No. 109, 1954.

5. Watt, B.K., and Merrill, A.L.: Composition of Foods—Raw, Processed, Prepared, Washington, D.C., United States Department of Agriculture, Agricultural Handbook No. 8, 1950.

6. Bowes, A. deP., and Church, C.F.: Food Values of Portions Commonly Used, ed. 7, Philadelphia, Anna dePlanter Bowes, 1951.

Percentages of Recommended Daily Dietary Allowances* for Pregnant (3rd Trimester) and Lactating Women Provided by 3-Ounce Portions of Cooked Pork Meats and Pork Sausage

| | Protein | Iron | Phosphorus | Thiamine | Riboflavin | Niacin | Calories |
|---|---|---|---|---|---|---|---|
| **PREGNANCY (3rd trimester)** | | | | | | | |
| Ham, without bone, 3 oz., cooked[5] | 25.0% | 17.3% | 13.5% | 30.0% | 10.0% | 26.7% | 12.5% |
| Pork Chops, without bone, 3 oz., cooked[5] | 25.0% | 17.3% | 13.3% | 47.3% | 10.0% | 28.7% | 10.5% |
| Pork Sausage, 3 oz., cooked[6] | 17.3% | 14.0% | 9.2% | 27.7% | 10.1% | 18.5% | 14.7% |
| **LACTATION** | | | | | | | |
| Ham, without bone, 3 oz., cooked[5] | 20.0% | 17.3% | 10.1% | 30.0% | 8.0% | 26.7% | 10.2% |
| Pork Chops, without bone, 3 oz., cooked[5] | 20.0% | 17.3% | 10.0% | 47.3% | 8.0% | 28.7% | 8.6% |
| Pork Sausage, 3 oz., cooked[6] | 13.8% | 14.0% | 6.9% | 27.7% | 8.1% | 18.5% | 12.0% |

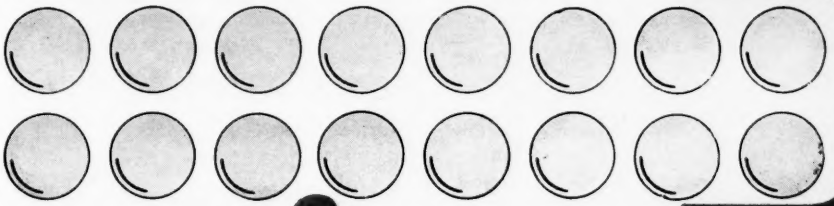
*Recommended Dietary Allowances, Washington, D. C., National Academy of Sciences—National Research Council, Publication 302, 1953

The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

**American Meat Institute**
**Main Office, Chicago... Members Throughout the United States**

# WHICH WOULD *YOUR* PATIENTS PREFER?

**16** **ONE-HALF GRAM** ENTERIC-COATED
AMMONIUM CHLORIDE TABLETS



*or only* **8**

# AMCHLOR

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**"Easy-to-swallow" AMCHLOR** is processed in such a manner that each enteric-coated tablet contains 1 Gram of ammonium chloride and yet is not much larger than the 7½ gr. enteric-coated tablet. Thus the same dose can be given with only one-half the number of tablets.

**FROM COAST TO COAST** both physicians and patients are showing a decided preference for **AMCHLOR.**

SUPPLIED

*The next time you prescribe ammonium chloride*
*specify—*
**AMCHLOR** – Brewer
*THE ONE GRAM enteric-coated tablet*
*of ammonium chloride*
*for your patients' convenience!*

*For samples just send your Rx blank marked —15-AM-12*

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brand new!

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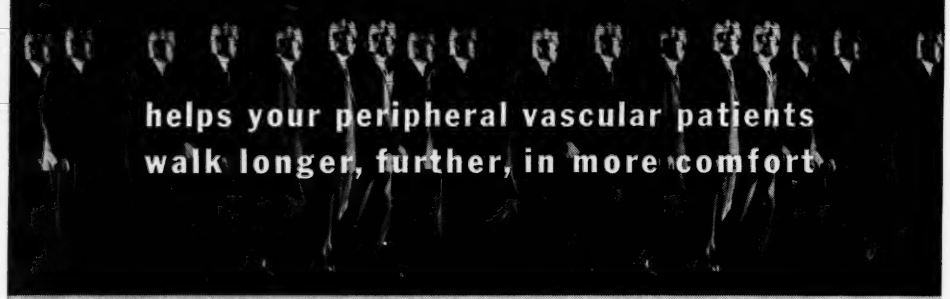
vasorelaxation
more tissue oxygen
improved muscle metabolism
pain relief
safe • rapid • sustained



helps your peripheral vascular patients
walk longer, further, in more comfort

**"strong muscle vasodilator activity and an adequate increase in cardiac output"[1]**

**"safe vasodilative agent of minimal toxicity and optimal tolerance"[2]**

**in intermittent claudication**
**diabetic vascular disease**
**Raynaud's disease**
**thromboangiitis obliterans**
**ischemic ulcers**
**night leg cramps**

ARLIDIN dilates peripheral blood vessels in distressed muscles, relaxes spasm, increases both cardiac and peripheral blood flow . . . to send more blood where more blood is needed.

**dose:** 1 tablet t. i. d. or q. i. d.
bottles of 50, 100 and 1000.

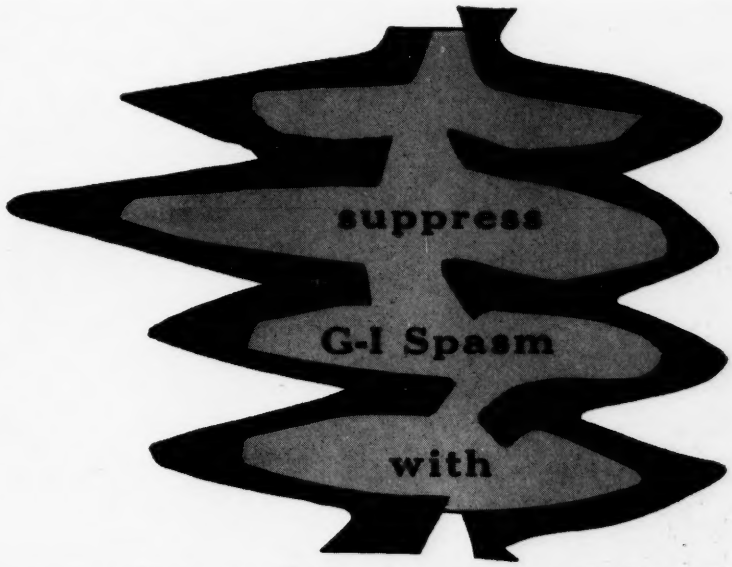
**arlidin*** HCl
brand of nylidrin hydrochloride
tablets **6 mg.**

1. Pomeranze, J. et al.: Angiology, June, 1955.
2. Freedman, L.: Angiology 6:52, Feb. 1955.

Write for samples and literature

**arlington-funk laboratories**
division of U. S. Vitamin Corporation
250 East 43rd Street, New York 17, N.Y.

*Trade Mark




**Trasentine®-Phenobarbital**

- Inhibits Parasympathetic Activity
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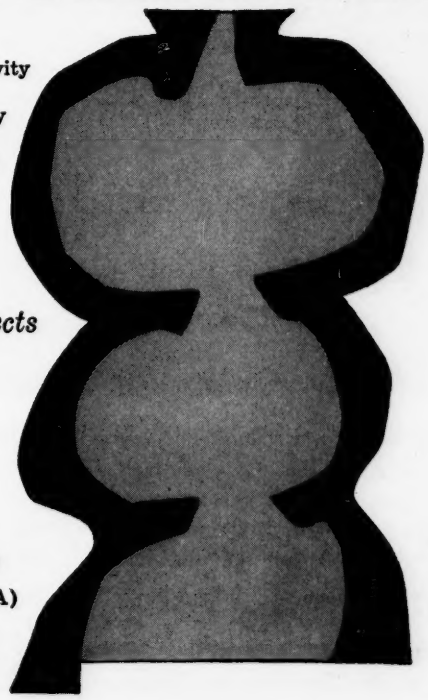
- Exerts Local Anesthetic Effect on G-I Mucosa
- Sedates the Patient

*Without Atropine Side Effects*

Each tablet contains 50 mg. Trasentine hydrochloride and 20 mg. phenobarbital.
Also available: Trasentine hydrochloride Tablets, 75 mg.

Trasentine® hydrochloride
(adiphenine hydrochloride CIBA)



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CIBA *Summit, N. J.*

MEDICAL HORIZONS TV Monday P.M. *Sponsored by* CIBA ABC-TV

KNOX Protein Previews

New Knox Food Exchange Chart
Eliminates Calorie Counting

To help your obese patients reduce and stay reduced, Knox introduced this year a new dieting plan based on the use of nutritionally tested Food Exchanges.[1] The very heart of this new dietary is a "choice-of-foods diet list" chart which presents diets of 1200, 1600 and 1800 calories.

Each of these diets may be easily modified to meet special needs. However, the important points for your patients are that the use of this chart eliminates calorie counting, permits the patient a wide range of food choices and dispels that old empty feeling by allowing between-meal snacks.

These advantages should make your management of difficult and average cases easier. If you would like a supply of the new Knox charts for your practice, just fill in the coupon below.

1. Developed by the U. S. Public Health Service assisted by committees of The American Diabetes Association, Inc. and The American Dietetic Association.

Chas. B. Knox Gelatine Co., Inc.
Professional Service Dept. RM-12
Johnstown, N. Y.

*Please send me____copies of the new, color-coded "choice-of-foods diet list" chart.*

YOUR NAME AND ADDRESS:

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STECLIN-MYCOSTATIN
SQUIBB TETRACYCLINE-NYSTATIN

**WELL TOLERATED BROAD SPECTRUM ANTIBACTERIAL THERAPY PLUS ANTIFUNGAL PROPHYLAXIS**

**BROAD SPECTRUM ANTIBIOTIC THERAPY, EFFECTIVE IN MANY COMMON INFECTIONS**

Because it contains Steclin (Squibb Tetracycline), MYSTECLIN is an effective therapeutic agent for most bacterial infections. When caused by tetracycline-susceptible organisms, the following infections are a few of those which can be expected to respond to MYSTECLIN therapy:

| | | | |
|---|---|---|---|
| bronchitis | gonorrhea | osteomyelitis | pyelonephritis |
| colitis | lymphadenitis | otitis media | sinusitis |
| furunculosis | meningitis | pneumonia | tonsillitis |

MYSTECLIN is also indicated in certain viral infections and in amebic dysentery.

**BROAD SPECTRUM ANTIBIOTIC THERAPY, WITH A MINIMUM OF SIDE EFFECTS**

In clinical use, Steclin has produced an extremely low incidence of the gastrointestinal distress sometimes observed with other broad spectrum antibiotics. Mycostatin (Squibb Nystatin), as contained in MYSTECLIN, is also a particularly well tolerated antibiotic and has produced no allergic reactions, even after prolonged administration.

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**SQUIBB**

Each MYSTECLIN capsule contains 250 mg. Steclin Hydrochloride and 250,000 units Mycostatin.

*Minimum adult dose:* 1 capsule q.i.d.

*Supply:* Bottles of 12 and 100.

"MYSTECLIN", "STECLIN" AND "MYCOSTATIN"® ARE SQUIBB TRADEMARKS

all through the night

one application of

# DESITIN® OINTMENT

*helps protect the infant's skin against*

**diaper rash** (ammoniacal dermatitis) • **irritation** • **excoriation**

DESITIN OINTMENT covers the infant's skin with a soothing, protective, healing coating which is largely impervious to and helps guard against irritation, rash, and maceration caused by urine, excrement, perspiration and secretions. This preventive action of Desitin Ointment *persists all through the night*...when baby is particularly vulnerable to painful skin excoriations.

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- tubes of 1 oz., 2 oz., 4 oz.
- 1 lb. jars.

*for* **samples** *and literature please write....*

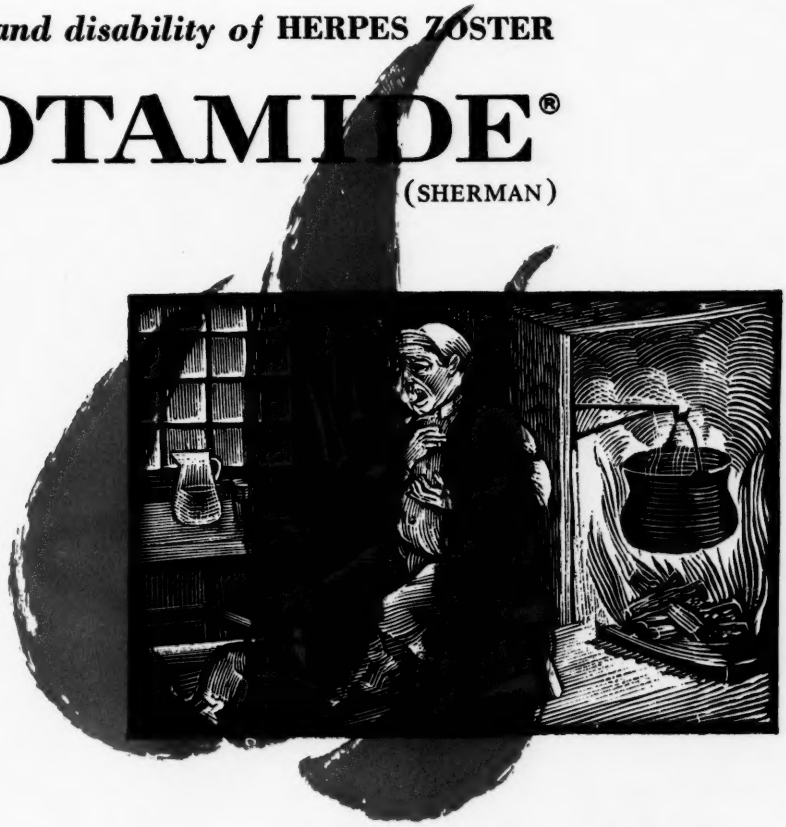
**DESITIN CHEMICAL COMPANY** 70 Ship Street Providence 2, R. I.

**1.** Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. Med. 53:2233, 1953. **2.** Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951. **3.** Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surgery 18:512, 1949. **4.** Turell, R.: New York St. J. Med. 50:2282, 1950. **5.** Marks, M. M.: Missouri Med. 52:187, 1955.

*for the pain and disability of* **HERPES ZOSTER**

# PROTAMIDE®

(SHERMAN)



*published studies* show:*

Improvement is "almost immediate," with "good to excellent results" in four out of five patients, and no postherpetic neuralgia in any patient who responded favorably.

Protamide is a sterile colloidal solution prepared from animal gastric mucosa . . . denatured to eliminate protein reaction . . . completely safe and virtually painless by intramuscular injection.

Clinical data on request.

*use* **PROTAMIDE®** *first*

*in herpes zoster and post-infection neuritis*

SHERMAN LABORATORIES
BIOLOGICALS • PHARMACEUTICALS

*Combes, F. C. & Canizares, O.: New York St. J. Med. 52:706, 1952; Marsh, W. C.: U. S. Armed Forces M. J. 1:1045, 1950.

# Panalgesic

***a strong local analgesic and non-irritating counterirritant for relief of pain in neuralgia, muscular rheumatism and in muscular aches and strains.***

Containing 58% salicylates (methyl salicylate and aspirin), with menthol and camphor, in an alcohol-oil base, Panalgesic provides prompt relief of muscle, nerve, or joint pains. A green liquid, Panalgesic is virtually non-greasy and does not stain the clothing. Panalgesic is issued in 2-ounce bottles and in half-gallon dispensing bottles.

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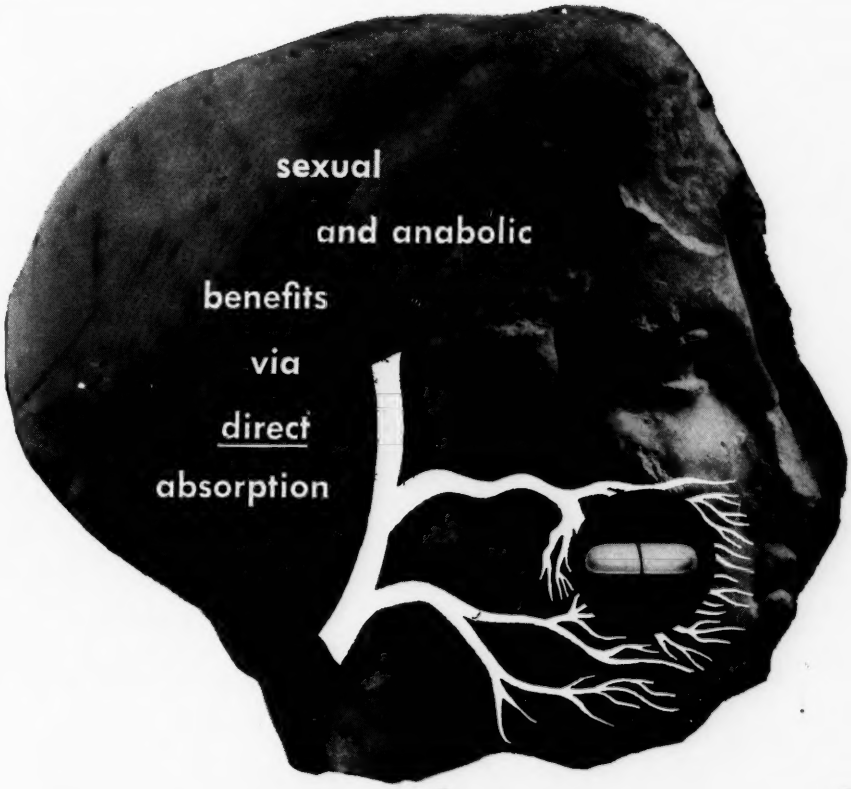


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**the most potent oral androgen**

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**the most potent oral estrogen with the most potent oral androgen**

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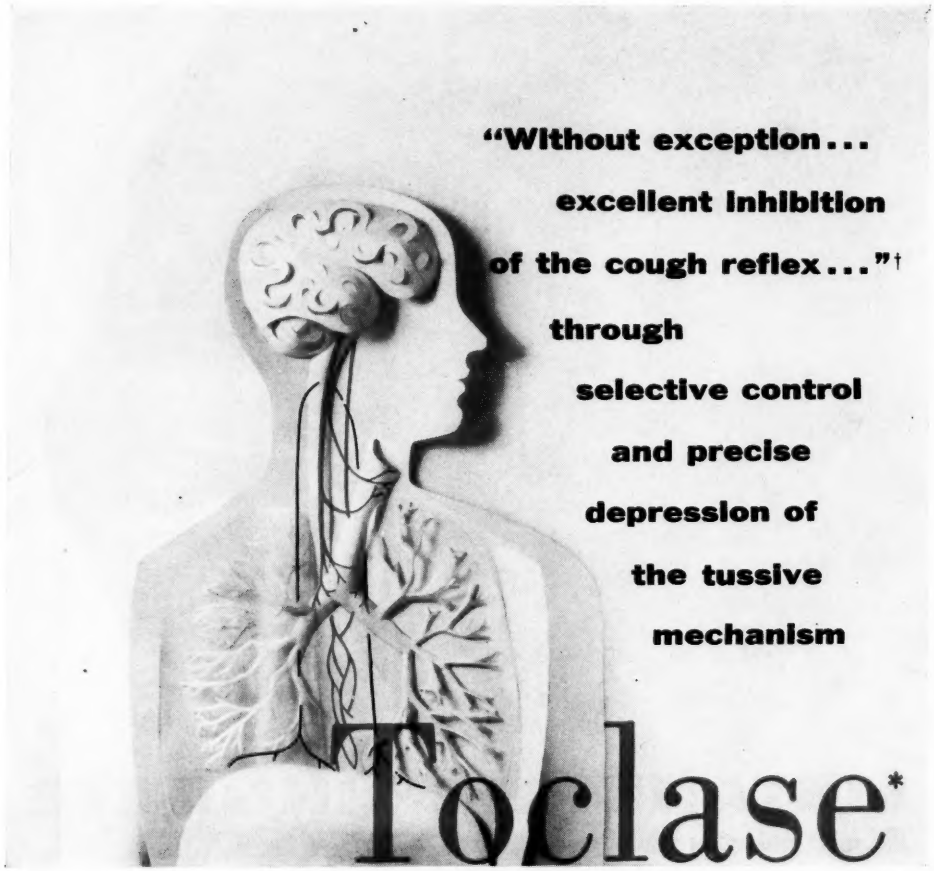


Brand of carbetapentane citrate

**Non-narcotic, non-constipating, non-sedating, non-nauseating, but HIGHLY SELECTIVE and HIGHLY EFFECTIVE**

**TOCLASE EXPECTORANT COMPOUND** Reduces the frequency and intensity of unnecessary cough... moderates, but does not abolish purposeful, productive cough. Sugar free. Pleasant-tasting, cherry-flavored, amber color syrup. Bottles of one pint.

**TOCLASE SYRUP** Controls hyperactive, irritating cough. Pleasant-tasting, cherry-flavored, red color syrup.

*for convenience at work or recreation*

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†Parish, F. A.: M. Times *83*:870 (Sept.) 1955.

*TRADEMARK

Pfizer PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N. Y.

## 109TH ANNUAL MEETING

## of the

## PROVIDENCE MEDICAL ASSOCIATION

**at the Rhode Island Medical Society Library**

**MONDAY, JANUARY 9, 1956**

***Guest Speaker:* CHARLES S. HOUSTON, M.D., *of Exeter, N. H.***

**"PERSONAL OBSERVATIONS MADE AT VERY HIGH ALTITUDES"**

**(Doctor Houston organized the British-American party in 1936 which climbed Nanda Davi, 25,600-foot peak in the central Himalayas. In 1950 he accompanied his father on the first approach to Everest from the south, being the first white men ever to cross this section of Nepal. His long-term study of acclimatization to high altitudes, after he conducted "Operation Everest" in 1946, produced a considerable amount of valuable physiological data that have been recorded in many scientific publications.)**

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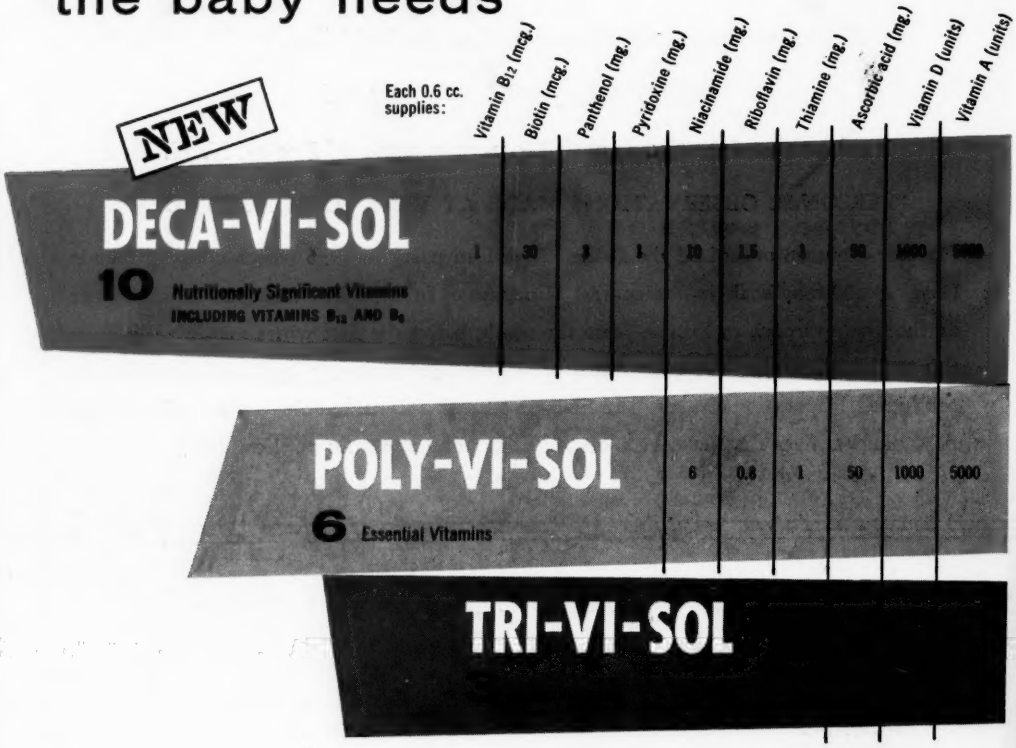
# Select the level of protection the baby needs

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Deca-Vi-Sol is . . . **highly stable** . . . refrigeration not required . . . potency assured . . . **readily accepted** . . . exceptionally pleasant flavor . . . no unpleasant aftertaste . . . **full dosage assured** . . . can be dropped directly into the baby's mouth.

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